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Original Articles

SYMPTOMS OF CANCER OF THE UTERUS.*

JOHN G. CLARK, M.D.
PHILADELPHIA.

Notwithstanding the almost innumerable articles which have recently been published on cancer of the uterus, there has not been one pathognomonic sign or symptom discovered which will point unerringly or even with approximate certainty to the onset of this disease. The established fact that more than 65 per cent. of cases of cancer are turned away from our hospitals as inoperable, and that of those presumably operable only a very small percentage are ultimately cured, is a very serious reflection on our ability to make an early diagnosis in these cases.

EVIL OF PROCRASTINATION.

As the matter stands the blame largely, but not wholly, rests on our profession, for our women patients too often pursue such a procrastinating policy that nothing can be done by the time they consult a physician. While we usually attribute our bad results to this source, we can not support it by the past history of medicine, for it is a well-known fact that medical knowledge of one generation becomes a lay possession of the next. The root of this evil, therefore, comes directly home to us, for even to-day many physicians are all too much inclined to attribute every nervous and physical deviation of women after 35 years of age to the ills of the menopause, and consequently assume that time will slowly but surely correct them.

In approaching the question of symptomatology, we must, therefore, clear the ground of all this rubbish before we can hope to make progress. The surgical world is at present pursuing the most radical operative policy against cancer, and, with certain limitations, I am in full accord with this policy. This line of action has been pursued to its furthest limit, and yet our results under present conditions are notoriously bad. The limit to further progress, so far as devising more radical operations, has been reached, and the chief aim in the future must be to educate our consciences up to the point of feeling that we are the most malicious of malpractitioners if we pass over lightly the slightest deviation of the menstrual function in women of the cancerous age, or of treating locally, as an ulcer, a condition of the cervix which may be cancer. Still more our energies must be turned toward our patients in impressing on them the serious dangers of delay in consulting a physician after any of these minor symptoms appear.

Fortunately, the professional lethargy which has so retarded this advancement is disappearing, and while the fact is well established that there are no characteristic symptoms of cancer of the uterus there are, nevertheless, symptoms which occur sufficiently early to suggest the danger and require a prompt investigation. If the profession generally assumes this position we will soon find the same gratifying rise in the operability of these cases that has already been noted in Germany under the educational policy inaugurated by Winter and pushed so vigorously as a national medical policy by German gynecologists. The mass of literature on the various operations on cancer points unerringly to the curability of cancer in its early stage.

While it is to be regretted that there are no early pathognomonic signs, this very deficiency should put every physician on his guard and cause him to investigate the comparatively meager symptoms present in many cases. While the alarmist's viewpoint is usually to be decried in medicine, for in the end it will work more harm than good, in cases of cancer of the uterus there is little danger from this attitude, for if a suspicion of the disease has been aroused by atypical symptoms it may readily be set aside or confirmed by an examination. If the suspicion is confirmed a precipitate operation should be urged; if, on the other hand, no cancer is found, the patient is all the happier and all the safer for this knowledge. Under these conditions she will not become introspective if she is once assured there is no cancer. Now that the more intelligent, as well as the more ignorant women, are coming to learn that an operation is the only hope held out for their cure, the very fact that this course is not insisted on, after the examination is made, will at once allay their fears as to the presence of the disease.

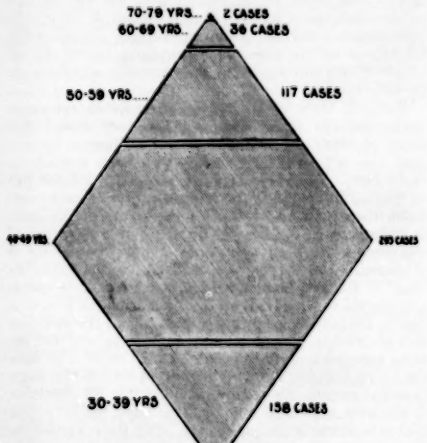
REVISED SYMPTOMATOLOGY.

The first of the older precepts which must be utterly cast out in teaching, and in consultation with patients, is that the irregular discharges of the menopause are in any sense typical of a normal condition. This period in a woman's life should come about as a natural diminution with cessation, or as an abrupt cessation, and never with irregular floodings or leucorrheal discharge. Both of the latter are evidences of a pathologic state; and, while in many cases this may be self-limiting and may terminate without serious effects on the patient, no more unfortunate error can be made than to proceed contentedly on this assumption, and when it finally ceases to cheerily tell the patient that your prediction is now confirmed. This viewpoint, which may be correct in one case, will possibly condemn others, for all women naturally shrink from examination, and if Dr. A., in his foolhardy optimism, has thus assured Mrs. B. she will advertise this fact to her neighbors, who under similar circumstances either defer seeing a physician until an incurable stage of cancer is reached, or even more fool-

* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Fifty-seventh Annual Session, June, 1906.

ishly consult Dr. A., who ignorantly passes over the symptoms with the same criminal optimism, and in this false security the patient is professionally guided to her horrible fate. Let us, therefore, throw aside once and for all this fetish of the harmlessness of the atypical discharges of the menopause. Also the terminal symptoms of cancer, such as pain, profuse, foul smelling discharge, cachexia, and excessive hemorrhage should only be considered of prognostic rather than of diagnostic worth, for, unhappily, they usually indicate an inoperable stage of the growth. It is the slight symptoms that are of value and the physician, therefore, who allows a patient under his care with a simple leucorrhea or an irregular menstrual discharge to drift on to the more pronounced symptoms is criminally culpable.

Another fallacy in cancer is the hereditary theory. Many a physician in the past, even in the face of well-defined symptoms, has attributed them to the menopause, solely because he is assured that there is no



Analysis of 631 cases, indicating the ages at which the disease most frequently occurs. From this chart it will be seen that between 40 and 49 years a much larger number of cases occur than during an equal number of years in any other period in a woman's life. (Adapted from Kroemer's statistics.)

hereditary tendency. To clear up the question of symptomatology, we should at once discard heredity as a factor, for I am certain that of all the diseases which are usually attributed to this origin this has the least foundation in statistical facts.

While heredity practically plays very little part in the diagnostic consideration of cancer, the importance of recognizing the fact that cancer is a disease of midlife can not be too strongly emphasized. The accompanying chart shows that at least 90 per cent. of the cases occur between 40 and 50 years of age. After 60 years have passed the danger is not greater than that of a woman less than 23 years of age. Another fact on which stress has constantly been laid as a causative factor in the production of cancer is the injuries of childbirth. Sampson has shown that in 412 cases only 3 per cent. had not been pregnant.

As will be seen from my foregoing remarks, our chief object must be to revise the symptomatic structure of the past, for of all diseases this is the flimsiest. To reiterate my opening sentence, there are no pathognomonic signs or symptoms, and the quicker the physician recognizes this fact the more frequently will he detect this disease. The suggestive signs which should be investigated by an exhaustive examination in any woman between 22 years of age and the climacteric period are:

1. Any deviation of the menstrual period in the way of an excess or an intermenstrual discharge, especially in women beyond 30 years of age. The most suspicious of these are: (*a*) a mere show after slight exertion, defecation or coitus; (*b*) increasing length of the period, even if only one day more than has been her established habit. Every woman is a law to herself in this respect.

2. An exacerbation in amount or change in character of the discharge in a woman who may have had a simple leucorrhea for months or years. Of these changes a free aqueous, acrid, or blood-tinged discharge is especially portentous.

3. A leucorrheal discharge in a patient who has never had it before.

4. Every atypical discharge in a woman after the menopause. These cases are especially liable to cancer and should, if possible, be even more exhaustively examined.

5. Pelvic pain of more than a few days' duration should always be an urgent reason for examination, although it is very seldom an early symptom of cancer.

EXAMINATION NECESSARY.

From these statements it is very evident that the chief stress in symptomatology points not to a diagnosis, but to the urgent necessity for an examination, for on this almost exclusively the diagnosis must rest. As these cases have presented themselves at our clinics and those of Europe, the gross pathologic appearances are so characteristic that the mere novice, if he has seen but one case, or has read carefully the description of these lesions, will almost unerringly make the diagnosis.

In this connection I would also protest against the use of the word "ulcer of the womb," for many a poor woman has paid her professional fee thrice weekly to some ignorant or wilful practitioner for treatment of an ulcer which, from its very beginning, was a cancer. Dr. Emmet pointed out many years ago that there are very or erosions of a lacerated cervix. If it is a true necrotic process, which is actually causing a well-marked solution of continuity in structure, in 95 cases in 100 it is cancer.

Cancer of the cervix, therefore, as we almost invariably see it at present, is usually easily distinguished by the ordinary clinical examination, but if the educational side of this question is taken vigorously in hand, the borderline cases will be much more frequently seen, and then the microscopic confirmation of suspicious pathologic appearances will become more and more important. I can imagine no more dangerous fallacy than to assume that as clinicians we can make the diagnosis without this aid in the early stages of the growth. Before every other consideration these early suggestive signs should be minutely investigated by the usual digital and specular examination, and then, if in doubt, the microscopic investigation should be invoked.

While, as stated, the usual clinical investigation will,

as a rule, conclusively settle the question of suspicious symptoms referable to lesions of the cervix, it utterly fails in cancer of the fundus. Many a case has been passed through the operator's hand as endometritis, polypi, etc., which ultimately proved to be cancer. Many other cases have been subjected to hysterectomy for cancer when it was not present. These mistakes will not occur if the microscopic examination is conducted by a skilled observer. When, therefore, the clinical evidence is deficient the microscopic examination becomes the court of final resort. As a routine, uterine scrapings from all cases should be submitted for microscopic examination.

EARLY DIAGNOSIS.

That a diagnosis should be made in the majority of cases before the disease extends beyond the operative limit has been shown conclusively by Sampson, for in about 76 per cent. of 162 operable cases at the Johns Hopkins Hospital and about 81 per cent. of 250 inoperable cases there had been a history of bleeding for over three months before the patients came to the hospital, and bleeding had been present for over six months before their admission in about 51 per cent. of the operable cases and in about 60 per cent. of the inoperable cases.

In the gynecologic department of the University of Pennsylvania Hospital, cancer of the cervix has been discovered through the aid of the microscope in but one case when it was not suspected. In cancer of the fundus, however, several cases have been diagnosticated in this way, and the patients permanently cured by early operations. In the first the clinical evidences are sufficient in possibly 95 cases in 100; in the second the percentage is so greatly diminished as to make the microscope the chief diagnostic means.

As a concluding statement, one may say that cancer of the cervix can almost invariably be diagnosticated by the usual clinical examination; in cancer of the fundus it can at best be only surmised. If, as we anticipate, these cases come to us earlier for consultation as the result of popular education, more and more valuable will become the services of the expert pathologist.

REPORT OF COMMITTEE* ON CANCER OF THE UTERUS.

SUBMITTED TO THE SECTION ON OBSTETRICS AND DISEASES OF WOMEN AT THE BOSTON SESSION. JUNE, 1906.

READ BY THE CHAIRMAN* JOHN G. CLARK, M.D.

PHILADELPHIA.

In the consideration of cancer of the uterus your committee has been impressed by the urgent need of a general plan of public education on many medical subjects. While this section is naturally interested in promoting some effective means of reducing the frightful mortality in cancer of the uterus, each section of the American Medical Association is as intensely intersted in similar work pertaining to matters of public health falling within its province. For this reason your committee has felt the necessity for widening the scope of its duties, and will present to the House of Delegates a plan for the organization of a board of general public instruction. Should this suggestion be adopted, the report on cancer of the uterus, which we present for your consideration, is so framed that it may become an integral part of a general educational plan. Until this question, however, is settled by the House of Delegates we feel that the Section on Obstetrics and Diseases of Women should distribute, for the benefit of the entire medical profession, facts concerning the frequency, prognosis, course, early diagnosis and treatment of cancer of the uterus. Our communication, therefore, takes the following form:

FOREWORD.

At the meeting of the International Congress of Arts and Science, held at St. Louis, Sept. 24, 1904, the gynecologic section passed a resolution requesting the American Medical Association to develop means of increasing the percentage of cures in uterine cancer.

The committee, consisting of Dr. John A. Sampson, Albany, N. Y.; Dr. Fred J. Taussig, St. Louis, and Dr. John G. Clark, Philadelphia, submitted a report to the House of Delegates at the Portland session of the American Medical Association. This report was adopted and the matter was referred to the present committee for further elaboration and presentation to this section at this session.

It is apparent that cancer in general, and cancer of the uterus in particular, is a subject of vital importance because of the character of the victims, the frequency of the disease, its insidious onset, the rapid progress to an inoperable stage, the suffering entailed and the frightful mortality. To those who know that the disease is local at its inception and hence capable of complete eradication at a very early stage it is appalling to contemplate the practical fact that in from 95 to 97 per cent. of all cases radical cure is not attempted until long after the possibility of success has passed.

One can not but feel that ignorance of plain facts leads the victims of this disease to screen its existence until suffering forces them to apply for relief. How striking the contrast between cancer and appendicitis! As the result of general publicity even the kindergarten child now knows something about appendicitis and the adult recognizes the importance of an early diagnosis and prompt operative intervention.

In every other sphere of medical endeavor matters of equal moment are constantly arising concerning which the general public should have greater knowledge. The pediatrist finds urgent need for the dissemination of directions regarding infant-feeding; the alienist has no dearth of problems concerning the humane treatment of the insane. In the province of the sanitarian and internist the control of tuberculosis and other infectious diseases, the sanitation of large communities and other important subjects are matters of general concern. The needs are too apparent for further comment. In order that the subject of cancer of the uterus shall be brought before the medical profession at large, your committee suggests the following plan:

To the individual member of each county medical society in America the following communication under separate cover shall be sent:

Dear Doctor:—The Section on Obstetrics and Diseases of Women of the American Medical Association has appointed a committee to investigate some of the practical facts regarding cancer of the uterus. The committee has done so and I submit herewith a copy of their report.

The subject is of such great importance to the entire community that I trust you will give the report your painstaking consideration.

Very sincerely yours,

Secretary of Section.

* The members of the committee are: Dr. F. F. Simpson, Pittsburg, Pa.; Dr. Thos. S. Cullen, Baltimore; Dr. John A. Sampson, Albany, N. Y.; Dr. J. Clarence Webster, Chicago; Dr. John G. Clark, Philadelphia, chairman.

REPORT OF COMMITTEE.

1. Cancer is a Frequent Disease.—Apparently 5 per cent. of all deaths after the age of 30 are from cancer somewhere in the body.

2. At Its Inception It Is Capable of Complete Eradication.

3. It Is Rarely Cured To-day.—It probably kills more than 90 per cent. of those afflicted.

4. It Is Evident, Therefore, That the Methods of the Past are Wholly Inadequate to the Needs of the Future.

We believe that popular ignorance of facts, indeed very patent facts, accounts for this deplorable mortality in a curable disease. The time has come for us to revise our views and for the public at large to be taken more closely into our confidence regarding cancer. We would, therefore, ask your earnest coöperation in the fight against this disease.

To the best of our knowledge the following is a brief, but true and accurate recital of facts regarding cancer in general, and cancer of the uterus in particular.

A. CANCER IN GENERAL.

1. Cancer is primarily a local disease.

2. In its primary stage it is so localized that every particle can be removed; it is, therefore, capable of complete eradication with a resulting permanent cure.

3. While still local it causes, as a rule, little or no discomfort, and no loss of weight. The deviations from normal seem slight, indeed, and yet they are very definite, easily recognizable, and demand immediate investigation. Upon its first recognition, immediate removal by a competent operator is the requisite for a cure.

4. The disease, if not at once eradicated, progresses with great rapidity to other parts of the body by continuous growth and by metastasis.

5. When it has passed beyond the bounds of the original organ, however slight the involvement may be, the prospects of relief grow rapidly less with the days and with the extent of the involvement.

6. Serious symptoms of cancer rarely appear until an inoperable stage of the disease has been reached.

7. The classical description that has so long stood as a picture of cancer (pain, hemorrhage, offensive discharge, emaciation, profound anemia, and an ashen hue) is really a picture of impending death, due to advanced cancer, and irrevocably indicates the impossibility of a cure at this stage.

8. The *time* of operation (measured by the progress of the disease) is much more important than the *type* of operation, for a simple operation, if performed very early may effect a cure, while the most radical at a later stage is of no avail.

B. CANCER OF THE UTERUS.

1. Cancer of the uterus is the most frequent form of primary cancer.

2. Cancer of the uterine cervix is much more frequent than cancer of the body of the uterus, and is much more malignant because it spreads beyond the limits of the uterus much more quickly. For the above reasons, cancer of the uterine cervix will be considered first.

CANCER OF THE CERVIX.

A critical study of the subject leaves little room to doubt that removal by operation, while the disease is still very limited in extent, offers the best and practically the only chance of cure. The main hope, therefore, lies in operating before the disease has passed beyond the limits of the uterus (either by metastasis or by direct extension), because it has been demonstrated over and over again that even microscopic particles of cancer which are not removed, continue to grow. It is this continued growth which gives the so-called recurrence in the great majority of cases.

An early diagnosis is possible in a large percentage of cases. Probably over 50 per cent. of the operable cases, and a much higher percentage of the inoperable ones, have been bleeding for six months before any treatment is considered. As the course of the disease is usually rapid, six months or even less of neglected uterine bleeding permits the disease to extend so far that only a small percentage of the cases can be cured. Even in the face of this statement, it must be still remembered that many apparently advanced cases have been cured permanently by the more recent radical operations.

Because of the frequency of the disease, the narrow limit of time which separates success from failure, and the overwhelming proportion of women (94 to 97 per cent.) who absolutely neglect themselves until it is too late for them to receive benefit, it is apparent that ignorance of facts is a chief factor in the deplorable failures of the past. It is evident that to accomplish better results, the disease must be detected earlier, very much earlier, in 95 per cent. of all cases.

For the purpose of improving the possibility of a greater number of cures, we would ask that you instruct your circle of acquaintances regarding these facts. Especially would we suggest that you impress mothers regarding the wisdom of a careful physical examination at the first appearance of the unaccountable uterine bleeding or discharge, and the necessity in case of doubt, of employing the services of an expert in pelvic diagnosis. In Prussia, where the education of women along these lines has been attempted on a large scale, results already show a striking increase in the percentage of cases discovered early in the course of the disease.

Permit us to call attention to some of the suggestive symptoms of early cancer of the uterus—symptoms which are not in themselves conclusive, but are always sufficiently suggestive to make a careful and exhaustive physical examination advisable, and in most instances imperative.

Symptomatology of Cancer of the Uterine Cervix.

(a) A disease of midlife—occurring especially between the ages of 30 and 50.

(b) It rarely occurs in women who have not borne children.

(c) While there is no characteristic early sign of cancer, bleeding or a blood-stained discharge is usually, but not always, present. It may be:

1. Slight, "only a show," appearing at irregular intervals, as on exertion, after sexual intercourse, using a douche or straining at stool; or it may be slight but constant, the patient noticing that her clothes are slightly stained on taking them off at night.
2. In other cases the bleeding may be more profuse, simulating a prolonged or irregular menstruation, or a return of the menses after the menopause.
3. In still other cases, severe hemorrhage may occur, appearing either as the result of some unusual exertion or during menstruation, or the cause may not be apparent.

(d) In a small percentage of the cases bleeding may be absent, but usually some other sign, such as an unusual leucorrheal discharge, calls attention to the growth. In a small percentage of cases all symptoms referable to the growth may be absent for a long time.

(e) Pain caused by the growth usually occurs later in the course of the disease, and must be differentiated sharply from pain arising from pelvic trouble independent of the cancer, such as inflammatory conditions of the tubes, ovaries, etc.

3. It is evident that all women suffering from uterine bleeding or other symptoms referable to the uterus should be examined as soon as possible, and if the diagnosis is not clear the uterus should be curetted or a small piece of the cervix excised and not thrown away, but presented in 10 per cent. formalin or ordinary alcohol and sent to a competent pathologist.

4. All symptomatic aberrations referable to the generative organs of women about the menopause should be looked on as the possible beginning of malignant disease, and an immediate examination should be urged. If no pathologic change is detected, this fact alone would be of great value to the physician as well as to the patient. If a suspicious area is found, prompt measures for its certain diagnosis by the microscope may be instituted.

(a) *Course.*—Its course is rapid. It passes beyond the limits of the uterus proper (and hence becomes practicably incapable of complete eradication) in a period which usually varies between 30 days and 6 months from the outset of the earliest symptom. When it runs its course undisturbed patients rarely live more than three years. About three-fourths of them die within two years; about one-third within one year after the first manifestation of the disease

(b) *Results Under Existing and Past Conditions.*—Probably from 75 to 80 per cent. of these patients in this country do not apply for treatment until the disease has progressed too far for anything but palliative measures (i. e., until the disease is no longer limited to the uterus). In only about 20 to 25 per cent of the total number of cases of cancer of the cervix is radical operation attempted. In the vast majority of these cases, a careful study of the gross specimen and microscopic sections from the outer margin, will show that the surgeon has failed to remove all of the diseased tissues. The so-called rapid recurrences are really, therefore, continued growths. In these cases medical attendants have made an effort to save the patient's life, but the disease had, unfortunately, progressed too far for that result to be possible. Unfortunately, in from only 3 to 6 per cent. of the total number of cases of cancer of the cervix is an operation instituted early enough for the surgeon to circumvent the disease. It is only in this class, of course, that the disease is completely eradicated.

(c) *Results Which Appear Easily Possible.*—Authentic cases of complete eradication of undoubted cancer of the cervix are so numerous as to leave no doubt that, if the diseased tissues are completely excised and if the implantation at the time of the operation is avoided, a permanent cure is not only possible but also probable.

CANCER OF THE BODY OF THE UTERUS.

Cancer of the body of the uterus is much less frequent than cancer of the cervix, grows much more slowly, and remains restricted to the uterus for a long time; and for these reasons the diagnosis is usually made earlier in the course of the disease and its operative treatment is attended with a lower primary mortality and a much higher percentage of cures. Cancer of the body of the uterus usually occurs at a more advanced age than cancer of the cervix, and is more frequent in women who have not had children.

THE OPERATIVE TREATMENT OF CANCER OF THE CERVIX UTERI.*

EMIL RIES, M.D.

CHICAGO.

Rational operative treatment of any cancer is the outcome of our conceptions of the pathology of cancer. Pathology teaches us that every cancer in its beginning is a limited local disease, and that cancer can be cured if the entire area involved is removed. Clinical experience accords with this theory, because observation proves that undoubted cancers have been cured for good in a number of cases after operative removal of the diseased area; while data concerning this fact are indisputable, if not very numerous, it must be emphasized that no other known method of treatment has so far satisfied the double test which we require in the critical investigation of operative results. This double test consists, first, in confirmation of the diagnosis by the microscope, and, secondly, in the observation of the patient for many years (at least five) after the operation. No reports which do not satisfy these two tests are of any scientific value.

The application of our pathologic theories to the treatment of carcinoma of the uterus is connected with the names of Freund, Czerny and Schroeder. Their methods achieved the removal of the primarily diseased organ. They could be deemed logical and could be expected to be crowned with success if the primarily diseased organ was the sole and only seat of the disease. Hence, the indications for these operations demanded that the uterus should be movable, and that the surrounding organs should be free from cancer. The selection of the abdominal hysterectomy after Freund or the vaginal hysterectomy after Czerny-Schroeder depended on technical questions (size of uterus, adhesions, width of vagina, complicating uterine or ovarian tumors). For many years, then, the vaginal operation has been the routine method for cancer of the cervix, while the abdominal route was reserved for exceptional cases. Both, however, originally intended the removal of the uterus principally as the seat of the disease.

We have now the experience of decades for a basis of a critical investigation of the results of such operations, and I am not saying too much when I make the statement that vaginal or abdominal removal of the uterus alone, while successful in a very limited number of cases, is a sad failure in an overwhelming majority if the above-mentioned double test is rigorously applied.

The disappointment of the operators spurred them on to careful and valuable investigations of the various locations of the recurring disease, and it was found that in the large majority of cases the recurrence took place in or near the scar. This fact was explained as due to two causes:

First, insufficient extent of the operation; in other words, leaving behind cancerous tissue which would continue to grow. In this case the recurrence was only a continuation of the original growth.

Second, contamination of the wound with cancer in the course of the operation; in other words, grafting cancer into healthy tissue.

These two sources of recurrence might occur singly or together.

A number of technical changes in the operations was the result of the study of the recurrences. To prevent contamination of the wound, the cancerous cervix was to be prepared in certain ways by curetting or cauterizing, and the operation itself was to be performed with the cautery, or at least with instruments which had not come in contact with the cancer. In order not to leave behind cancerous tissue, the operation was extended so as to include removal of parts of the vagina, of the broad ligaments to as great an extent as possible, of the appendages, or even of parts of the bladder. Auxiliary incisions were employed so as to give better access. The results improved somewhat, and pathologic examination of the specimens removed seemed to confirm the wisdom of these steps. It was found occasionally that the broad ligaments or the appendages showed involvement, that the cervix had been penetrated by the cancer, and gynecologists began to make the prognosis from the pathologic investigation of the uteri removed. Still the attention was riveted on the uterus itself and its immediate neighborhood. Promise of improvement seemed to depend on the fulfilment of three demands:

First and foremost, the cases must come early; hence the attempts at popular instruction and improved medical education.

Second, the cases must be submitted to more extensive operations; hence the Schuchardt incision, removal of tissues adjacent to the uterus.

Third, though with less emphasis, contamination must be prevented; hence special technical methods.

While all these endeavors were correct and most praiseworthy, it seemed to me that our pathologic investigations of cancers in general were not sufficiently applied in the treatment of cancer of the cervix. A number of pathologic data had been taken into account,

* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Fifty-seventh Annual Session, June, 1906.

but had not some been overlooked or others been denied a search and a hearing?

The investigation of cancer in general, and in the cervix uteri especially, had demonstrated that cancer is not sharply circumscribed by the diseased area recognized by inspection and palpation, but has outposts at a greater or lesser distance from the point of origin. These outposts were so far recognized in general surgery that it was deemed necessary to extirpate an inch of tissue all around the evidently cancerous area in order to be at a safe distance from the cancer. That distance had never been kept in any vaginal or abdominal operation for cancer of the cervix, and in consequence of the anatomic arrangement of the pelvic organs will never be observed, because it means an extensive resection of the bladder in every case, a step of the operation which few gynecologists will be found willing to make a routine practice on account of its great danger. Pathology had shown, furthermore, that under an apparently normal mucosa of the vagina cancerous outposts could be found at a considerable distance from the cervix, but it was not known to what extent this invasion of the pelvic connective tissue could accompany a small cervical cancer. The dreaded invasion of the broad ligaments could not be paid the due respect as long as the operations had to shrink anxiously from the proximity of the ureters. All these points were duly considered and were the topics of many discussions. They explained why vaginal operation was not and in many cases could not be a radical operation.

THE AUTHOR'S METHOD.

While these difficulties were duly appreciated, it seemed to me that the advance in the operative treatment of cancer, which had been made by surgeons in other regions of the body, had not been utilized sufficiently either in the pathologic investigation of or in the operative interference for cancer of the cervix uteri. In 1895 I ventured to formulate a plan for the extension of the operations for cancer of the cervix uteri in directions which until then had not been attempted by any one.

I started from the knowledge obtained from the investigations from Gussenbauer to Heidenhain that cancer, though originally a circumscribed disease, very rarely reaches the surgeon at that stage of its development. It had been shown particularly in cancer of the breast that in its advance cancer follows certain preformed paths, the lymphatics, with more or less regularity, and that the size and condition of the original growth is no criterion as to the extent of this advance. It seemed to me that this pathologic law should apply to cancer of the cervix uteri as much as to any other cancer. Literature on this subject there was none at the time, because postmortem investigation of patients dead from cancer of the cervix could prove nothing as to the conditions obtaining in early operable cases.

I proposed in 1895:

First, that the operative treatment of cancer of the cervix in its early stage should extend to the lymphatics and the surrounding connective tissue.

Second, that one of the obstacles which had been found insurmountable for the older operations could be overcome by dissecting out the ureters to their full length in the true pelvis.

I also added that the improvement to be hoped from this new departure was in the direction of greater security from returns in early cases, not in the direction of increase of the number of cases amenable to operative treatment. It was recognized that recurrence depended not only on contamination with carcinoma in the operation or on the possible extent in the immediate neighborhood of the uterus, but on the possible invasion of more or less distant organs physiologically related to the original seat of the disease.

The demands on what a radical operation should be were raised thereby, and a further possible cause of the failures exposed.

If it was true that the lymphatics could be involved early, then an operation taking into account this fact and removing these lymphatics gave an additional chance of complete cure. If it was true that the broad ligaments carried these lymphatics, then an operation removing them to an extent hitherto impossible and undreamed of gave an additional chance of complete cure. If contamination of the field of operation with cancer was a possible cause for recurrence, and if an operation could be performed so that all operating on the surrounding tissues was done without the cancer itself being handled, then such an operation gave an additional chance of complete cure. And all these points are embodied in the operation which I proposed, and no one had ever proposed such an operation before.

The operation has since been performed with many variations and modifications. It is a matter of great satisfaction to know that the application of the pathology of cancer in general to that of cancer of the cervix has proven correct. The examination of lymphatics removed by operation proves the involvement of the lymphatics in the cancerous process the more conclusively the more thoroughly the operation has been performed, and the more thoroughly the investigation of the lymphatics has been conducted. It would take many hours to go into all the details of this question of the lymphatics. Suffice it to say that careful operators and investigators have proved that over 50 per cent. of the patients operated on present involvement of the lymphatics. Percentages alone, however, are scarcely so important as some other results of these investigations, and here six points deserve our special attention:

First.—Examination before the abdomen is opened is utterly unable to reveal the condition of the glands.

Second.—The size or hardness of the glands proves nothing as to their invasion by the cancer one way or the other.

Third.—Glands can be invaded whether the broad ligaments are cancerous or not.

Fourth.—Glands of one side can be invaded while the broad ligament of the same side is free and the broad ligament of the other side is cancerous.

Fifth.—The size of the primary growth in the uterus is without any correlation to the glandular involvement.

Sixth.—Cancerous glands can remain quiescent for a long time and then give rise to recurrence.

The objections to the removal of the lymphatic glands have been numerous and severe, and I can answer a few of them very briefly. It has been stated that cancer in the glands may undergo spontaneous cure, and as evidence of this the microscopic appearance of degeneration in cancer in the glands has been described. I beg to remind you that processes of degeneration are common in every cancer and occur everywhere in cancer, though associated with the most aggressive growth of the tumor.

It has been objected that it is never possible to remove all the lymphatics and that such an undertaking is chimerical. Allow me to remind you that the same

holds true in carcinoma of the breast. Are not mediastinal glands sometimes the seat of cancer in cases of cancer of the breast, and has any one ever claimed that because mediastinal glands can not be removed it is no use to remove those above and below the clavicle? Is it not correct to remove at least all you can?

This question of the removal of the lymphatics has been treated very unscientifically here and there. Some operators, for instance, say that it is not necessary to remove all glands. They remove only a few which seem enlarged or happen to come out easily. They have these examined and maybe find no carcinoma. Therefore, they conclude that it is not necessary to remove glands at all, because the few which they did remove do not show any cancer. That is reasoning from insufficient data, and, as a matter of fact, the more thoroughly an operator removes glands the more frequently his pathologist finds cancer in some of them.

The most severe objection which has been raised against my method was that the mortality from such an operation must be frightful. One operator who followed my method closely in his first thirty cases had a high mortality and has, therefore, changed his method so that now it is little else but an abdominal operation after Freund, with the addition of the dissection of the ureters. He removes a few glands here and there or none at all. His primary mortality has become a matter of pride in his second and third series of thirty cases. A considerable number of operators follow in his footsteps and are devotees of a conservative radicalism, which inevitably leads back to high percentages of recurrence and throws a remarkable light on the statement of one of these operators that all his cases in which cancer has been found in the glands have become recurrent.

I must insist, however, that the removal of lymphatic glands is only a part, even though an important part, of the new operative treatment of cancer of the cervix which I have tried to inaugurate. My method of operating differs from all former operations for cancer of the cervix in that technically the removal of the uterus is really incidental to the removal of a large mass of pelvic connective tissue which surrounds the uterus. The operation is carried out like the radical removal of a cancerous breast. This method blocks out an area which with greater or less probability includes the outposts of the cancer as well as the original growth. It is impossible to carry out such an operation with the customary gynecologic methods of tying pedicles and ligating *en masse*. A clean anatomic dissection, with ligation of the vessels themselves, without formation of stumps, is the characteristic feature of the technic of this operation, as I have described it in the report of my very first cases.[1]

I have long been silent on this topic, and would probably continue to remain so if it were not for the fact that the present tendency in this work appears to me a step backward. I fear that those moderated radical operations of which we hear that they can be performed in an hour, and the mortality of which is no more than that of an ordinary abdominal hysterectomy, and which I have witnessed in some European clinics, will discredit the movement which I have tried to start. The permanent results achieved by such half-way measures can be expected to be only slightly better than those of the old hysterectomies, and I wish to present the claims of my radical operation, not because I may call it mine, but because I wish to save our patients from cruel disappointments.

In operating on a case of cancer of the cervix uteri, or, for the matter of that, any other cancer, it seems to me that a few points should help us in deciding on the type of operation to be selected.

1. Every cancer which is not removed completely kills its bearer sooner or later.

2. The more we follow up cancer along its irregular and incalculable course the greater the chance of removing it all.

3. An incomplete operation does not save from death from cancer.

4. It is worth while to risk a severe operation where the alternative is a lingering, often horribly painful and disgusting disease, the best side of which is the semi-idiocy of the morphin-numbed bearer of the cancer.

REPORT OF CASES.

Bearing these points in mind, I have operated on my patients with cancer of the cervix of the uterus, and I am glad to report most hopeful results. I report here only the cases on which I operated more than five years ago. Their clinical and pathologic features will help to refute a number of statements made in the recent literature of this question, to which for want of space I have not been able to pay special attention in the preceding general remarks.

Case 1.—Mrs. A. H., aged 32, of Michigan, since November, 1896, has had a foul-smelling discharge, coitus hemorrhages, no pain. She has lost little flesh.

Examination.—Inside the cervix was an irregular, ragged growth, which bled easily; the entire cervix was enlarged; the body of the uterus was of normal size, movable and easily drawn down. The right sacrouterine ligament was thickened close to the uterus. The right appendages were enlarged; the left were of normal size.

Operation.—March 30, 1897, the cervix was prepared by curettement and cauterizing. On March 31 the abdominal radical operation, as described in the *Zeitschrift für Geb.*, vol. xxxvii. The operation lasted three hours.

Postoperative History.—The patient was discharged from the hospital twenty days after the operation. Microscopic examination of the uterus showed squamous cell carcinoma of the cervix. Carcinoma was found in the glands. This is the first case in which those ducts lined with columnar epithelium have ever been observed in the lymphatic glands, which have since been observed and described repeatedly by other observers as well as myself. The patient improved in health and gained 45 pounds in weight.

Subsequent History.—In November, 1905, I saw her again in good general health, but complaining of edema of the left leg and enlargement of the inguinal glands. There was no recurrence in the vagina or pelvis. I operated on the enlarged inguinal glands about two months ago, and removed the glands from the left and from the right groin. The glands appeared cheesy and on microscopic examination proved to contain carcinoma. The patient has again recovered from the operation.

As there is no new carcinoma to be found in her pelvis, it must be assumed that this carcinoma of the inguinal glands has been lying dormant for over nine years. This is worthy of the consideration of those authors who believe that glands can be neglected in the operation, or that glands are well able to take care of some cancerous invasion.

Case 2.—Mrs. F., aged 34, of Texas; in October, 1898, she had her first and only severe hemorrhage. For nine months she had had a yellow discharge.

Examination.—Patient looks cachectic. The vaginal portion of the cervix showed a ragged, bleeding ulcer, which involved the anterior vaginal wall for three centimeters; the posterior lip

1. Ztft. f. Geb., vol. xxxvii.

was not involved. The uterus was freely movable; the left adnexa were enlarged to the size of a hen's egg; the right adnexa were adherent.

Operation.—Nov. 4, 1898, an abdominal radical operation was performed after cauterization November 3. The patient was discharged from hospital twenty-five days after operation. Microscopic examination of the uterus showed carcinoma of the vaginal portion, with cancerous invasion of some glands.

February, 1906, the patient was still well.

CASE 3.—Miss T., aged 35, of Chicago. In May, 1897, had a criminal abortion. Since then she has had irregular hemorrhages and copious discharge. For two months she has had pain in the left side, radiating to the leg. She has lost 25 pounds. She has been addicted to morphin for twelve years. She looked cachectic. The vaginal portion of the cervix presented a small nodular tumor, which was ulcerated and bled easily. Uterus was freely movable.

Operation.—Jan. 10, 1898, an abdominal radical operation was performed after preparation by curetting and cauterizing on January 9. The involvement of the glands in this case was enormous, and extended from the bifurcation of the aorta down to the femoral ring. Some of the glands were larger than the original tumor. In dissecting out the glands of the left side a tear of the external iliac vein occurred with severe hemorrhage. The hemorrhage was stopped with difficulty. The patient succumbed two hours after the operation had been completed.

Microscopic examination proved enormous cancerous involvement of the lymphatic glands.

CASE 4.—Mrs. H., aged 55, of Illinois, had had bloody discharge for a year. Her physicians removed a piece of the vaginal portion of the cervix for microscopic examination. Their examination failed to determine definitely the nature of the disease.

Examination.—There was a cauliflower growth of the anterior lip of the cervix, reaching out on to the vagina. The posterior lip was normal. The uterus was small, retroverted, and freely movable.

Operation.—May 19, 1899, operation was performed after curetting and cauterizing on May 17. The patient was discharged from hospital 19 days after operation. No cancer was found in the glands.

Subsequent History.—The patient enjoyed perfect health until early this year, when she returned on account of a small nodule in her left breast. I operated on this nodule in March of this year.

Examination of this nodule proved it to be carcinoma of an entirely different type from the former carcinoma of the uterus. The vagina and the pelvis were found entirely free.

CASE 5.—Mrs. T., aged 54, of Iowa, recently had a first hemorrhage. Since then she had had hemorrhages and discharge.

Examination.—There was a large cauliflower growth of the vaginal portion of the cervix.

Operation.—Jan. 6, 1900, an abdominal radical operation was performed after curreting and cauterizing Jan. 5. The patient was discharged 19 days after operation.

Microscopic examination of the glands was negative. The patient is in perfect health to-day.

CASE 6.—Mrs. B., aged 55, of Illinois, had had a greenish discharge for a year, with hemorrhages since February, 1901.

Examination.—There was carcinomatous ulceration of the posterior lip and posterior wall of the cervix, invading, slightly, the anterior wall of the cervix. The patient was very obese.

Operation.—On May 13, 1901, abdominal radical operation was performed after preparation by cauterizing and curetting on May 12. The operation was made extremely difficult by the vast amount of fat in the abdominal walls. The patient collapsed at the end of the operation, and died on the table.

Microscopic examination of the glands showed carcinomatous involvement.

CASE 7.—Mrs. T., aged 43, of Iowa, had hemorrhages for six months, and bloody discharge.

Examination.—The vagina was filled by an enormous cauliflower growth. The uterus was freely movable.

Operation.—Sept. 2, 1901, an abdominal radical operation was performed after preparation of the patient on August 30, by extirpation of the large cauliflower with difficult hemostasis.

The patient was discharged 17 days after operation in excellent condition. Microscopic examination of the glands shows carcinomatous involvement and the above-mentioned columnar epithelium ducts. The patient is in perfect health to-day.

CASE 8.—Mrs. L., aged 52, of Illinois had had irregular hemorrhages for six months with a watery discharge. There was small ulceration of the posterior lip of the cervix. Everything else was free.

Operation.—Sept. 17, 1906, an abdominal radical operation was performed. The patient was discharged 19 days after operation. Present condition of patient is perfect. Microscopic examination of some of the glands failed to show cancer, but showed again columnar epithelium ducts.

SUMMARY.

I present, therefore, reports of eight cases. Two of the patients died practically on the table, six are alive to-day; all over five years after the operation, all with carcinoma demonstrated by the microscope in the uterus. The two patients who died on the table presented cancerous involvement of the lymphatics, so that at least for these patients it can not be said that they succumbed to an extension of the operation which could in any way be called unnecessary. Four of the survivors are free from all cancerous changes. One patient has since developed a carcinoma of the breast of a type different from the carcinoma of the uterus, for which she had been operated on seven years before. The believers in a carcinomatous diathesis will be inclined to count this case in favor of their hypotheses. In view of the fact that the histologic structure of the two cancers was different, I am of the opinion that the woman developed a new cancer in her breast, which had nothing to do with the original cancer in the uterus.

The first patient who was ever operated on presented, over nine years after the operation for cancer of the uterus, a recurrence in the inguinal glands. I consider this case a most important one in the consideration of the pathologic dignity of the lymphatics in cancer of the cervix.

The microscopic investigation of glands removed in these radical operations showed carcinoma present in six patients, four of whom are alive to-day.

I conclude with the question: How long would they have lived if these cancerous glands had not been removed?

100 State Street.

THE RADICAL OPERATION IN UTERINE CANCER.*

PROF. ALFONS VON ROSTHORN.
HEIDELBERG.

When you did me the honor of inviting me to speak to you here it was no easy task for me to choose a subject which might prove of sufficient interest. The fact of my being invited to speak in a country in which some of the most fundamental facts of modern gynecology have been established, a country which by its tireless seeking for knowledge and by its many important discoveries in our particular branch has carved for itself such a gloriously high place in the scroll of nations, certainly increases the difficulty of my choice of a theme about which to address you. It seems to me that the best way in which I can respond to your kind invitation

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is to give you a short résumé of the progress in a subject which in Germany has been followed with intense zeal, and whose importance is acknowledged to be most prominent. I refer to the most effective method in the treatment of cancer of the uterus.

No address of to-day dealing with this subject should pass by, unheeded, the latest attainments in the pathology and etiology of the disease,[1] for a perfect cure can be expected only where the actual nature of the malady is thoroughly understood. Yet I do not consider myself qualified to discourse on these two branches. In addition to this, notwithstanding the innumerable combined investigations conducted over the widest areas, with the object of discovering the supposed cancer parasite, and the statistics as yet furnished us, still the data afforded concerning the etiology are at present so scanty that, in view of the limited time at my disposal, I shall doubtless do better to restrict myself to the discussion of that with which we are more closely connected, and with which we are, therefore, more familiar, the clinical side of the question. Yet I can not proceed further without touching on the therapeutic prospect given us quite recently by Professor Ehrlich in one of his superb lectures, in which, as a result of his thoroughly successful experiments with mice, he conclusively demonstrated the possibility of transferring a cancer-like neoplasm from one animal to another. The success of these experiments opens before us a new vista, especially the possibility of immunizing animals; as Ehrlich has the fullest confidence in his deductions, we have, analogically at least, good reason to hope that we may at some time be able to move on more definite lines with the best results to mankind. As this, however, must of necessity be a matter for future development, there remains for us for the moment but to work according to the hitherto recognized pathologic principles concerning the peculiarities of cancer cells, and to be content to fight the fight honestly against what has been believed by many to be an incurable disease. In consequence of the results of operations for cancer not having been, generally speaking, of permanent effect, physicians are liable to a great extent to take a pessimistic view of the possibility of eradicating the disease by operation, an attitude which does not redound to the welfare of their patients.

1. Literature on the general subject will be found referred to in the following important and recent works:

BAISCH: "Der Wert der Drüsenausräumung bei der Operation des Uteruscarcinoms," Arch. f. Gynaek., vol. lxxv, No. 2.

KRÖMER: "Ueber die Lymphorgane der weiblichen Genitalien und über Veränderungen bei Carcinom uteri," Monatschr. f. Geb. u. Gynaek., vol. xviii, No. 8.

KUNDRAT: Ueber die Ausbreitung des Carcinoms im perimetritischen Gewebe bei Krebs des Collum uteri," Arch. f. Gynaek., vol. lxix, No. 2.

PANKOW: "Vergleich der klinischen u. pathologisch-anatomischen Untersuchungsbefund bei Carcinome uteri und ihre Bedeutung für die Therapie," Arch. f. Gynaek., vol. lxxvi, No. 2.

MACKENRODT: "Ergebnisse der abdominalen Radikaloperation des Gebärmutterscheidenkrebses mittels Laparotomia hypogastrica," Zeitschr. f. Geb. u. Gynaek., vols. liv and lvi.

SCHINDLER: "Statistische und anatomische Ergebnisse bei der Freund-Wertheim'schen Radikaloperation des Uteruskarsinoms," Monatschr. f. Geb. u. Gynaek., vol. xxiii, No. 1.

SCHAUTA: "Die Berechtigung der vaginalen Totalexstirpation bei Gebärmutterkrebs," Monatschr. f. Geb. u. Gynaek., vol. xix, No. 4.

KERMAUNER: Hegar's Beiträge z. Geb. u. Gynaek., vol. v, No. 1.

TIBURTIUS: "Collumcarcinom von kurzer Dauer und geringer Ausbreitung bei hochgradiger Lymphdrüsenmetastasen," Hegar's Beiträge z. Geb. u. Gynaek., vol. vii, No. 1.

See also the discussion of the subject in the transactions of the German Gynecologic Society at Giessen, 1901, at Würzburg, 1903, and at Kiel, 1905.

IMPORTANCE OF EARLY OPERATION.

It may be the fault of the patients themselves that cancer in its earlier stages is not examined with the necessary thoroughness, that the minuter signs are not sufficiently noted, and that, therefore, surgical aid is not sought until it is too late. As a consequence we all complain that in the large majority of cases—and this is no exaggeration—the chance of an operation being attended with lasting results is a very small one, indeed. As long as we are obliged to depend only on surgical treatment it is of the highest importance that we shall strive for a diagnosis in the earliest stages of the disease as our first desideratum. It is, therefore, necessary in the highest degree that all physicians should act on this principle, and that all teachers should endeavor to impress the same idea on their pupils by every possible means, with the object of enlightening the public, who are dense in their ignorance, and indifferent in their conduct. The idea that symptoms such as irregular, atypical discharges at the menopause are of no importance should be emphatically discouraged. Winter's endeavors in this respect are, therefore, to be warmly praised and furthered in every way. I open to-day's discussion with the following dicta:

1. Cancer of the womb begins, as cancer in other organs, with a growth which is absolutely local; in some forms of the disease cancer remains a local malady for a long time and shows no inclination to spread, or is prevented from doing so by the increased resistance offered by the surrounding tissues.

2. In such cases which are still sharply localized the cancer can undoubtedly be totally eradicated and thus permanently cured. Records of such cases in sufficient numbers have been noted, after carefully established microscopic diagnosis. One of the best known instances is that of the patient operated on by W. A. Freund (abdominal operation in 1878), who was exhibited at the Conference of Physicians in Breslau in 1904 as having been permanently cured after a period of 26 years. Every surgeon knows that this is by no means an isolated instance.

3. Absolute cure by the operation of removing the affected organ can only be assured when the disease is confined to the organ in question. Under certain fortunate conditions a permanent cure may even be effected by amputation of the cervix (Schroeder, Hofmeier, Byrnes).

4. As soon as the disease, even only as microscopically demonstrated, spreads beyond the compass of the organ originally affected, a recurrence is inevitable; from which we may argue that residual cancer cells remain active.

5. As these extensions can not be recognized by clinical examination unless they have already become palpable, it was the natural tendency of surgeons to remove as much as possible of the adjacent tissue. After having found by systematic examinations that the radiations of the cancer tended to follow the same direction as that followed by the lymph, the operation of removing the lymphatics was found to be necessary. In this way the modern radical operation for cancer has been developed, for which the operation for cancer of the breast is the type (Gussenbauer, v. Heidenhain). No modern surgeon would content himself by attempting to exterminate a cancer of the breast by merely removing the part only apparently affected; we are now convinced that such a proceeding would be totally inadequate. It is not only necessary to remove the whole breast, but

also to endeavor to remove the axillary glands whether they are enlarged or affected in any way or not, and even the fascia beneath.

It is, therefore, astonishing that gynecologists did not long before employ these methods in their own particular work. We only find occasional attempts at such operations made some years ago, for instance, Pawlik's attempt to remove through the vagina more of the adjacent connective pelvic tissue. Schuchardt's attempt to extend the vaginal method by using the paravaginal incision (analogous to the parasacral incision of Woelfler and E. Zuckerkandl) in cases of cancer of the rectum, so that it would be possible to have an increased accessibility to the parts, and also that a larger portion of the parametrial tissue might, if necessary, be removed.

By the expansion of Freund's old operation, which, on account of its first failures, had nearly fallen into oblivion, the removal of the regional pelvic glands was made possible and a method of operation on the uterus was devised, corresponding with the surgical principle just cited. Already Freund had himself repeatedly expanded his operation by purposely removing enlarged glands. This systematic development of such operations has only obtained during the last ten years or so. Attempts of this nature have been made simultaneously by many different operators, which was only a natural consequence. And thus we see that Clark, in America, was one of the first to adopt this new method, and with the greatest success; while, in Germany, Ries and Rumpf may be cited as the men who first deliberately and with design carried these principles into actual practice and reported on their experiences; then followed Wertheim, who since the year 1899 has worked untiringly, not only at the technical aspects of the question, but who also developed its scientific phases.

My own first operation of this character, without my being cognizant at that time of the work of my contemporaries, was in 1900 at Graz, after having attempted several times previously at Prague in difficult cases to perform total extirpation by the abdominal route. Of the followers of the up-to-date method of abdominal operation, who in the course of time by means of their publications have endeavored to propagate their ideas, the following names may be mentioned: Jacobs (Brussels), Mackenrodt (Berlin), Zweifel (Leipzig), Franz (Jena), Jonesku (Bukarest), Amann (Munich), Cullen (Baltimore), Doederlein (Tuebingen), Kroenig (Freiburg), Kleinhans (Prague), Morisani (Naples), v. Franqué (Prague), Polloson (Lyon), and others, while among other prominent gynecologists who uphold the vaginal method are Olshausen (Berlin), Chrobak (Vienna), Schauta (Vienna), Pinard (Paris), Pozzi (Paris), Delbet (Paris), Treub (Amsterdam), etc.[1]

STATUS OF THE ABDOMINAL OPERATION.

A very wide experience has proved to all who have interested themselves in this method of operation that the abdominal process must be looked on as the most rational, since it corresponds most nearly with the recognized surgical principles of the present day; and even its opponents have finally been obliged to admit that without doubt, in technical respects, more can be accomplished by this means than in any other way. The opponents have justly contended that this method, as was proved by the first series of these operations, is essentially more dangerous to the individual, the primary success being far inferior to that obtained by the vaginal operation; moreover, the justification of such an extensive and, therefore, dangerous remedy has been questioned.

The immediate mortality in the early stages of these operative attempts was very high, indeed; it has, however, improved materially, especially in the hands of certain operators, and a further improvement can certainly be anticipated. This improvement may be ascribed partially to improved operative technic due to increased experience as well as, I believe, to the fact that some operators have given up the extreme radical measures, such as the removal of all accessible glands, and have restricted themselves to a more or less extensive extirpation of the parametric tissue.

This reduction was most striking with Wertheim, who registered his series of cases in a most systematic manner, and who gave up this original radical method, recognizing that when the lymphatic glands were affected recurrence almost invariably took place, notwithstanding their removal. His example seems to have been followed by the majority of German operators, with the exception of Mackenrodt. What I have seen done by others in operative work in this direction was very different from what I had expected this operation to be. This explains the fact that the more recently published series of cases show no fatal results (Doederlein). My experience shows the reverse. Venturing on increasingly complicated cases, and striving to do the utmost in operating very radically, I found my mortality increasing as compared with my former results.

The most important phase of the question, namely, whether the permanent results obtainable by the abdominal method justify its greater primary danger compared with that of the vaginal method, has not yet been settled. At present we have only two reports in our literature covering a period of more than five years (Wertheim, Schindler); the latter comprises also a part of my own material. These reports differ greatly, the first being very favorable, and showing successes superior to any hitherto obtained by the vaginal method, and the latter being unfavorable. In the face of such diverse observations, it remains only to wait for further reports, and only when we have more comprehensive statistics at our disposal shall we be able to come to a definite conclusion on the subject.

As might have been expected, one fact has been proved already. There are certain limits even to the abdominal method, and, although we have extended the boundaries of operative work in this direction to the utmost, we must be prepared for disappointments. This is due to the fact that all of us are still obliged to operate on cases much too far advanced, cases in 50 per cent. of which the cancer has passed beyond the limits of the uterus (Brunet). Let us not overestimate the value of this method, therefore, but, on the other hand, let us not undervalue it, as we are still in the early stages of its development.

SIGNIFICANCE OF LYMPHATIC GLANDS.

In connection with the tendency to improve our operative methods, very active researches are being pursued as to the way in which cancer spreads, especially as to the frequency with which the adjacent parts of the pelvic connective tissue and the regional lymph glands are affected. We have now obtained by means of these investigations quite a different insight into these conditions from that which we hitherto had. As to the number, situation and variability of the visible glands and the distribution of the lymphatic system, the researches

of gynecologists have widened and enriched our knowledge hitherto gathered by the anatomists (Mascagni, Cruveilhier, Henle, Sappey, Poirier). Topographical plates have been published with which we all are now thoroughly familiar, but which were unknown to former generations of gynecologists (according to the researches of Peiser, Bruhns and Kroemer).

Recent microscopic investigations of the parametria (Kermauner, Kundrat, Kroemer, Pankow, Brunet) have shown that the very small lymphatic nodules, specially described by Lucas Championière, five or ten in number (Bruhns) actually exist. As a possible starting point for a recurrence they are of special interest. If they are swollen they may even be observed during the course of the operation. One of them is situated at the crossing point of the ureter and the uterine vessels. The large iliac vessels are entirely surrounded by a network of lymphatics. Numerous anastomoses make a clear survey difficult and render the tracing of the lymphatic circulation very complex. These numerous connections make it possible for a retrograde transportation to take place, if some of the glands are filled with cancerous material, and thus the disease may be spread to glands which are situated outside of the normal efferent lymph channels (for example, the inguinal glands). Especially worthy of remark is a peculiar swelling in certain cases, a hypertrophy of the glands (precancerous adenopathy) which has long been known, but whose existence has recently been confirmed. In other cases we have found very small glands which were already the seat of cancerous infiltration.

The mode of invasion of the cancer cells into the glands, as shown by the microscope, I assume to be known to you; the usual findings being a cancerous infiltration of the convex surface of the gland. It is comparatively rare to meet in the neighborhood of the glands vasa afferentia dilated by cancerous material. A not very rare occurrence is the appearance of peculiar tubular formations, lined with cylindrical epithelium, described by Ries, Kermauner and Wertheim, whose origin has nothing to do with cancer, as was erroneously supposed by certain other writers. Robert Meyer has proved that the same structures are to be met with in cadavers totally free from cancer. I have to add that in certain cases these cancerous bodies look so strikingly similar to the so-called germ centers that they have frequently been mistaken for them by inexperienced observers.

The most important clinical question, however, is doubtless the frequency with which the glands are affected in the progress of cancer. For this reason this question has been most ardently discussed, and has furnished the most powerful arguments in favor of the abdominal route. The subject has been worked at most assiduously. Investigations in German institutions by many thousands of serial sections indicate a frequency of 20 to 42 4/10 per cent. It would seem, therefore, that in one-third of the cases which were operated on the involvement of the glands has been demonstrated (Baisch, Brunet). Practically considered another equally important question is whether the glands are also affected when the parametria are still free from cancer. Baisch's latest statistics answer this question in the affirmative (for one-fifth to one-tenth of the cases). It would also seem to be a fact that cancer in its earliest stages may appear in the glands (Tiburtius, our own experience). This is contrary to our former doctrines.

Finally, it would be desirable to obtain by means of further investigations more certainty as to the order in which the different groups of glands are attacked and whether there exists an extension of the disease *per saltum* (Schauta).

Unfortunately our methods of clinical examination, by which the participation of the glands and parametria are to be determined, frequently leave us in the lurch. Clinically, free parametria have proved under the microscope to be affected by cancer, and *vice versa;* rigid parametria showed only inflammatory infiltration. Cases which, according to the condition found on bimanual examination appeared inoperable by the vaginal method, were successfully operated on abdominally. Accordingly, our conception as to the inoperability must be essentially altered (Pankow). The notion that we are able to distinguish by touch the changes in the pelvic glands, as has been claimed by various authors, must be dismissed. We are able to feel only decidedly enlarged groups of glands, especially those which lie close to the side of the iliac vessels. The size and hardness of the pelvic glands, however, are no longer, as we know, a decisive factor in the diagnosis. We were repeatedly able to prove that small glands of normal aspect which could not be felt even in the opened abdominal cavity after the peritoneum had been slit were filled with cancerous material and *vice versa.* Enlarged glands frequently showed, however, inflammatory or tubercular changes.

We have considered now, very briefly I admit, what has been accomplished up to the present day.

OUR WORK OF THE FUTURE.

In my opinion, aside from the great importance of an early diagnosis, which was mentioned in my introduction, future progress must be along two lines.

1. We must direct our efforts toward lessening the danger of the operation by resorting to it somewhat more often only in those cases which from the very beginning give promise of a favorable result, instead of continually attempting to extend the limits within which an operation is possible; for surgery will always be of no avail when the disease has extended beyond certain limits. Moreover, we may cherish the hope of reaching the desired goal in a number of different ways. Experience has sufficiently enlightened us as far as the causes of death are concerned; it has been occasioned either by the extended duration of the operation (shock, necrosis) or through infection (peritoneal cavity, connective tissue). Secondary affections, especially those brought about by complications through the urinary tract (injury of the bladder, the ureter and necrosis of the latter) have also in many instances been responsible for the unfavorable result. It can be justly assumed that to a certain extent the damaging factors mentioned can be considered lessened. On the other hand, the whole organism should be systematically and carefully prepared for as long a time as possible before the operation (improvement of the general condition, strengthening the heart function, correcting severe cases of anemia, proper diet, heart stimulants, administration of large quantities of liquids, salt infusions, avoidance of weakening the patient beforehand by intense purging). We should also strive to shorten as much as possible the duration of the narcosis (performance of all matters pertaining to preparation, disinfection, shaving and preliminary curetting under scopolamin and morphin, making use as much as possible of mixed narcosis).

The danger from infection should be eliminated up to a certain point by taking a corresponding amount of care in preparing the field of operation (cleansing by repeated douches, prolonged use of disinfectants, thoroughly curretting and cauterizing just before the operation, especially in those cases where a high state of decomposition has already set in). Whether the prophylactic administration of nucleic acid (Mikulicz) and serum injections (J. Veit) have any value, are matters which can only be established in the future.

We can minimize the loss of blood by using systematically, preliminary ligature of the supplying vessels. The bladder should also be dissected away as carefully as possible in order to obviate too extensive injury to the numerous veins located at the base of the bladder.

In late years we have learned in many instances how to overcome these obstacles arising during the operation from complications with the ureter, and resulting from injury to this organ, especially when the ureter becomes necrotic through being deprived of its supplying vessels during its dissection from cancerous infiltration. We have made it a principle to allow the ureter to remain in connection with the posterior layer of the broad ligament, and to denude it as little as possible from its enveloping cell tissue. Whereas, when the ureter passes directly through the cancerous mass it is better to resect it entirely and to implant it in the bladder. The recent advances made in surgery of the ureter permit us to undertake more easily such procedures.

Complications with the bladder itself are especially troublesome, especially in those cases in which the dissection deprives the bladder wall of its muscular layer and in that way seriously impairs its function. This makes it impossible for the patient to pass the urine voluntarily, necessitates long catheterization and thus brings about unavoidably the development of a persistent cystitis. This is dangerous to this extent, as we have often seen that ascending infective processes have followed, and finally proved fatal. All suggestions, such as reefing the bladder, covering it with the peritoneum, etc., have not proved successful in every case. Great care in the dissection, careful suturing of the incision, covering with peritoneum and careful drainage, possibly even more extensive resection, are the means employed to make the complication as harmless as possible.

In addition to the avoidance of contact infection during the operation, the complete closure of the operative area from the peritoneal cavity by a suture of the serosa, and a well-prepared drainage into the vagina contribute to an easy recovery. As a usual thing we do not have at our command an area of serosa sufficiently movable on the posterior wall of the pelvis; we then lay the sigmoid flexure, as far as possible in its normal relations, over the region of the wound and fix it to the posterior wall of the bladder. We now use strips of iodoform gauze, as formerly, for drainage. The spaces in the parametrium arising from the wound are tamponed with this and the ends are conducted into the vagina. We regard this as a provisional dressing which, moreover in the beginning, absorbs the blood that oozes out, and the secretions from the wound.

I will not in this place go into further details regarding the technic of the operative procedure itself. Whether the peritoneal cavity should be incised longitudinally or transversely seems to me irrelevant in the discussion. I also regard the provisional closure of the operative field by peritoneal flaps during the operation as unessential.

To get results that are permanent I myself adhere closely to as radical a procedure as possible, so long as the question of the glands is not definitely settled. Besides we must strive especially to remove as extensive a part as possible of the upper portion of the vagina. The connective tissue of the pelvis should be removed, especially in those parts which correspond to the zones of thickening described by me and in which are located the vessels leading to and from the uterus, up to a point beyond the crossing-point of the ureter. In cases in which it can be done these are to be dissected out along with the uterus. It is here that we usually meet with greater difficulties when there is fixation and extension of the malady. Even the sacro-uterine ligaments should be removed as completely as possible. As formerly, I now excise as much of the gland tissue as I can reach, regardless of whether I find it involved or not, especially that situated at the point where the iliac vessels divide. Moreover, I excise those located on the outer part of these vessels and finally those which are designated as sacral, because I am not thoroughly convinced that these measures are of no value in spite of my failure to get permanent results in my first cases (Schindler). The extirpation of the glands is difficult and dangerous when there are numerous adhesions to the outer coating of the large vessels occasioned by inflammatory changes, or as is also the case in cancer. Moreover, injury of the iliac vein is not necessarily fatal. If the lateral ligature is not successful, we are forced to ligate the vessel completely. We have never seen any dangerous sequel arising from ligating an artery or vein when the ligature had been placed below the dividing point of the common iliac vessels.

Other things which it appears to me are to be expected of the future are the following:

Cases of cancer must be examined more carefully as regards their morphologic characteristics and they must be classified according to their clinical values. By this we understand not only the value as to point of origin and histologic structure, but also as to intensity of proliferation and character of the extension. In our investigations undertaken with a view to improving our knowledge by studying the histology of sections through the entire organ and bringing these results into relation with the involvements found in the parametrium and glands, we think a beginning has been made that is not without promise. The results thus far of these investigations in 22 cases of carcinoma of the cervix are not completed.

They show us, however, a great variation in form and manner of extension; they teach us already how difficult it is to decide even by means of the microscope on the real point of origin even in incipient cases. Thus we found it possible by adhering strictly to the postulates for the separation of carcinoma of the vaginal portion and of the cervix, to carry out such a separation exactly only in three of the 22 cases. The same applies also to the central nodes described by Ruge and Veit. A transverse section may often lead us to think erroneously that such a node exists. At the present time it is necessary to make serial section to prove exactly the central origin and the complete isolation of these structures. We need not be surprised, therefore, when authors differ in opinion on this subject. On the one hand, Leopold recognizes only cancer of the vaginal portion, while Amann,

for example, designates the mucosa of the cervix as a very frequent point of origin. In this connection we must also take into consideration those changes frequently met with, which we call ectropion and erosion and from which the neoplasm often arises. Theoretically, a cancer originating from the ectropion must, strictly speaking, be regarded as one of the cervix. If, in the microscopic examination, there is difficulty in classifying the primary site, we may the more certainly expect false classification if we depend on macroscopic descripton alone, as has been customary. For this reason, those authors who do not insist on this sharp differentiation take up to the present date the best course.

From a histologic point of view the designation squamous celled carcinoma and cylindrical celled carcinoma is not sufficient, but we must further add the round-celled carcinoma and distinguish in all these cases between uniform and polymorphous varieties. Cancer can arise from surface epithelium (vaginal portion, cervix—superficial cell layer, basal cells) and from the glands (cervix, body, erosion glands), also from Gaertner's duct (Robert Meyer). But even cancers that arise from surface epithelium can assume a glandular character (Krompecher). It is not necessary that typical cancer of the cervix appear always as cylindrical-celled carcinoma (glandular, small alveolar, medullary), but it may appear after preceding metaplasia of the epithelium, which plays a prominent part, even as genuine epithelial cancer. As such they have been found even in the corpus; here especially the adenocarcinoma is prominent.

Winter's classification of everting and inverting forms is very useful. The former should be divided into polypoid proliferations of the cervix and into genuine everting tumors of the surface of the vaginal portion (cauliflower); the latter, the inverting type (cervical-carcinoma and nodes) should be divided into those which proliferate from below upward and those which proliferate from above downward. These usually soon break down and form the well-known crater-like cavities or ulcerating forms. According to the size of the processes of the cancer, we can differentiate large and small alveoli and, according to their form, those which have round, irregular, finger-like alveoli, and those in which the alveoli are distinctly branched. The latter we may designate as plexiform. These have great similarity to lymphangio-endothelioma. Further, we can recommend a separation into glandular (carcinoma adenoides) and simple (carcinoma simplex), according to the arrangement of the alveoli.

The investigations which we have made thus far do not permit us as yet to establish a true connection between cell-form and point of origin, between size of alveoli and form. We have found, however, that in nearly 25 per cent. of the cases collum-carcinoma did not stop at the internal os. It is not always possible to distinguish this extension upward microscopically. Frequently the limiting zone is sharp and characterized by an infiltration of round cells (eosinophile leucocytes, giant cells); in other cases the carcinoma penetrates the healthy corpus tissue with blunt finger-like processes or again these may be very narrow and contain only single cells. Usually in cases of this kind the mucous membrane remains quite intact and shows only inflammatory changes. Consequently, as we see, the morphology of uterine carcinoma is still by no means so completely settled as we have believed it to be, and there yet remains much to be done in this direction. At all events what we require in the future is a far more exact examination of the specimen than we have had in the past. For statistical purposes we must eliminate corpus-carcinoma, sarcoma, endothelioma and malignant adenoma. For my part I have not yet settled the question as to the unicentric or multicentric origin.

Our knowledge as to the common occurrence of different forms in one specimen is not well enough established at present for us to make a definite clinical prognosis from the specimen excised for diagnosis, and come to a conclusion regarding the mode of extension.

I do not wish here to take up the difficulties which arise when a diagnosis is made from a test excision and in the early stages of the disease, as that would lead us too far.

All investigations which have thus far been undertaken with a view to distinguish the clinical value of uterine carcinoma by histologic structure have led to no result; but I would not yet abandon such investigations, for we have, as I believe, only started in that direction.

As to the malignancy of the growths which have been mentioned here we are accustomed to group together things which are essentially quite different. There are certain factors which determine the malignancy: energy of growth of the carcinoma cells themselves, structure and resistance of the matrix and of the adjacent tissues, abundance of preformed tissue-spaces, extent of the lymph spaces, activity of the lymph stream and the like. Spongy and succulent tissue and vascularity favor extension. The rapid progress in the cases of young and pregnant women is sufficiently well known. All slowly growing, scirrhus forms appear relatively favorable. Again, others are like the most malignant sarcomata, and the earliest operation is speedily followed by recurrence (abundance of cells, infiltrating growth).

I consider our knowledge of the mode of extension into the connective tissue adjacent to the uterus as not yet settled. A further histologic investigation of the parametrium in cases of carcinoma is to be desired. Our idea as to the forms which show a special tendency to extend into the neighboring connective tissue should be quite clear. Does the carcinoma develop regularly *en masse;* when does it choose principally the lymph channels; why do we so rarely meet lymph vessels filled with carcinoma? We have been astonished in our studies to find that the superficial muscular layers of the uterus can resist the invasion of the neoplasm so long. In the case of isolated nodes in the parametrium we must differentiate between a metastasis or a continuous growth by means of serial sections. Does not the minuteness of the carcinoma cells, like those of endothelioma, render their transportation especially easy?

FURTHER STUDY OF RECURRENCE.

In general we have now come to definite conclusions regarding kinds and causes of recurrence, since Thiersch has shown us the way. We must as a general rule take into consideration a local and regional recurrence. Recurrence as a result of implantation is at present no longer considered to have the importance formerly attached to it. It is an important fact that encapsulated cancer nests can remain latent for a long time, only to develop after the expiration of many years (10 to 12 years) and again become active as a result of irritation. We also possess very good records in regard to the time which elapses before there is a recurrence of uterine carcinoma. We need only, as it seems to me, a further investigation of glandular recurrence.

Studies on the cadavers of those who have died from

carcinoma have thrown light on the frequency and the location of the metastasis in other organs as well as in the glands (Wagner, Williams, Schauta). We need to study still further the frequency with which the glands participate in the recurrence. On the one hand this can be carried on in the cases of those who have just died after operation for carcinoma, and on the other hand in secondary operations. The knowledge gained by the latter especially, as has been suggested by me, I believe to be of the utmost value in deciding whether the glands should be extirpated or not. We certainly should, as I have said at Kiel, possess accurate data as to the site, mode of extension, condition of the parametrium and the glands at the primary operation if our knowledge based on further observations made in operations for recurrence is to be further enlarged. I myself described 7 cases at that time which showed what we may learn in these operations and what can be done therapeutically. The technic was certainly difficult, owing to the immobility of the recurring tumor. We have learned, moreover, that recurrences in the glands are far more unfavorable than those in the scar tissue, which latter are also more easily dealt with.

During protracted operations after extensive resection of the ureters, we have repeatedly made a simple ligature of them and have thus rendered the kidney atrophic without any disadvantage to the patient. (For particulars see *Verhandlung der Deutschen Gesellschaft f. Gynækologie*, Bd. 11). Permit me, on the strength of my own experience, to suggest that you do as I have done and again resort to operative measures in every case of recurrence which has not gone too far. I hope this will be fruitful of good results in many ways.

Finally we must learn more of the fate of transported carcinoma cells. Recent pathologic investigations show that transportation to certain organs (lungs) frequently is brought about by the blood circulation. These microscopic foci, however, are regularly destroyed (capillary emboli of the lungs, see M. B. Schmidt, Strassburg). It seems to me that special conditions are necessary before they become persistent and develop into a metastatic tumor. We may inquire, therefore, whether small microscopic foci which have been transported to the glands do not become extinct when they are not followed by others. We have no reliable proofs of this hypothesis as yet. We have very rarely observed carcinomatous thrombi in the blood vessels in our sections through the parametrium. As a general rule, penetration into the latter takes place only in very advanced stages of uterine carcinoma, as has been shown particularly by the investigations of Recklinghausen and Goldmann.

In conclusion, I would like to add to my initial remarks, which are doubtless accepted by you all, the following suggestions of my own as topics for discussion:

1. The abdominal operation is the most rational for the treatment of carcinoma of the cervix, since by its employment the most extensive removal of the parametric tissue is made possible.

2. The view that the glands are involved only in the later stages of the disease must be dismissed, and the fact that we sometimes find participation of the glands in the very early stages of uterine cancer has convinced me of the necessity of removing the glands in all cases, as I have always done.

3. Based on my own experience, I urgently advise it as our duty to operate on cases of recurrence which have not advanced too far for such procedures. On this account alone it is important to re-examine at frequent intervals (every eight weeks) after the primary operation.

You see, gentlemen, there is no end of work ahead of us, no end of questions to be solved by the practicing surgeon as well as by the pathologist.

Our distinguished above cited, Professor Ehrlich, speaking of the assault against cancer, has likened it to the siege of Port Arthur. Through his endeavors he feels that, the outer breastworks having been taken, the central fort is certain to be captured in the course of time. Yet, in spite of Ehrlich's prophecy, we medical men can not sit idly by and wait until by other means the victory is ours. I suggest that it will take a somewhat longer time than the capture of Port Arthur.

Therefore, let us, surgeons of all nations, unite in making strenuous efforts in combating this most dreaded foe of mankind.

DISCUSSION

ON PAPERS OF DRS. CULLEN, CLARK, RIES AND VON ROSTHORN.

[Dr. Thomas S. Cullen, Baltimore, when called on to read his paper on "The Pathology of Uterine Cancer," said that it had been his good fortune to cross the ocean with Geheimrath von Rosthorn, the guest of the Section, the week preceding; and that Professor von Rosthorn had given him his address to peruse. He declared that the admirable paper which they were to hear was such a thorough survey of the subject that little additional remained to be said. Dr. Cullen accordingly confined his remarks to a brief description of the normal histology of the uterus, to the various varieties of cancer that may develop in the uterus, and to the different modes of extension of uterine cancer.]

Dr. J. F. W. Ross, Toronto, Canada, regretted that the retrospect of his own individual work for the mitigation of the sufferings caused by cancer of the uterus is not satisfactory. Though the surgeon is able to diagnose the condition easily, and to remove the disease early, yet in the most favorable cases a return of the disease is very liable to occur, and very frequently does occur. Unfortunately it is not as yet known exactly what cancer is, except that it is a tendency for normal cell development to burst its bounds for some unaccountable reason and become an abnormal cell development, at first local, then becoming disseminated. In many cases the disease affects every organ of the body, becoming as widespread as a miliary tuberculosis. In many cases it seems to occur in those whose relatives have suffered from the same disease, but in very many cases no such hereditary tendency can be traced. Until we have a better understanding of the exact cause of the disease, medical and surgical efforts to cure it will be of little effect. If discovered early the whole organ should be removed, but such early removal does not by any means cure the disease. Dr. Ross has removed the uterus for adenocarcinoma of the body of the organ when the disease was apparently in its earliest infancy, when the small growth was no larger than the tip of the little finger, when the uterus apparently held all the cancer present, and yet he has seen the woman die from a recurrence of the disease within a year. He has removed the uterus for carcinoma of the cervix when the disease was apparently in its earliest infancy and has seen the growth recur within a few months, the patient succumbing to the disease a few months later. Surely, he said, this is not encouraging. There has been no part of his work in which he has obtained such poor satisfaction. If this result is so unsatisfying in such cases, surely the results from a more radical and more dangerous operation will be equally disappointing as to the return of the disease.

If the growth can not be efficiently dealt with in its very incipiency, is it for one moment to be supposed, he said, that it can be dealt with efficiently by any similar or more exhaustive treatment in its later stages? He has long since refused to touch the advanced cases. He has used caustics; used the curette, even the abdominal cavity has been entered

by the curette, but has found such procedures not only useless, but positively harmful. The growth seemed to be stimulated to grow faster. He has tried the *x*-rays and has not been satisfied with the results. The mental effect, he thinks, may have been good, but the local effect did not satisfy him. The disease proceeded in the glands in spite of any such treatment. When at last it is found that surgical as well as non-surgical measures have failed, Dr. Ross, for one, feels that again we must fall back on the physician, on the pathologist, on the physiologic chemist, for a solution of the difficulty. Surgeons have made every use of the knowledge of the most advanced pathologists; they have availed themselves of the accurate observations of the wide-awake family physicians, and yet they have to acknowledge a great measure of defeat.

DR. M. I. ROSENTHAL, Ft. Wayne, Ind., said that the status of cancer is to-day the same as was that of tuberculosis before Koch's paper was written in 1882, i. e., it is, the cause of cancer is unknown, but certain of its characteristics are known. It is known to be infectious; stitch implantations are not an uncommon occurrence. Cancer is known to spread through the lymph channels from the seat of the primary infection. Carcinomata vary in malignancy. Some carcinomata grow rapidly and early produce metastasis. These are what may be called the malignant variety, while other carcinomata grow slowly and only later produce metastasis. These may be termed the benign carcinomata, i. e., they are comparatively benign, and hence would require less extensive and less dangerous surgical interference. It is known that the malignancy or benignancy of the cancer is not so much dependent on the cell structure or the character of the cells, as on the organ or part of the organ in which it has its origin. Cancer of the fundus of the uterus is of the benign variety, as is the early cancer of the vaginal portion of the cervix, while that of the uterine portion is of the malignant type.

Baisch reports that in 120 abdominal operations for uterine cancer at the Tübinger Frauenklinic operable cases showed no pelvic glandular involvements in cancer of the fundus. Thirty per cent. of the cases of cervical cancers had metastatic involvements, while of those cases where the uterine portion was the seat of the disease the parametrium was found to be involved three times more frequently than in cancer of the vaginal portion.

Re-occurrence of cancer in the vaginal scar is the rule after vaginal hysterectomy, which, Dr. Rosenthal thinks, indicates that the operation of choice is the abdominal radical operation, with the ureters in full view, with broad excision through healthy structure. Recurrence in the vaginal scar is the exception in the radical operation. The important structures are protected from accidental injury while they also may be resected deliberately, if necessary, so that carcinomatous areas may be treated, because of their infectiousness, with the same respect which is shown to suppurating areas. The fact remains, however, that the mortality of the radical operation is greater than that of the vaginal operation, hence the vaginal operation may be resorted to in the less malignant of the cancers of the uterus, while the radical abdominal operation should be performed in advanced cancers and in all cancers of the uterine portion. He thinks that so long as operators return next day anxiously inquiring for signs of injury to the ureters, when they have done anything like a proper excision by the vaginal route, so long will the vaginal operation remain only an imperfect and incomplete excision.

DR. C. P. NOBLE, Philadelphia, stated that the profession must accept the responsibility for the popular belief that cancer is incurable, and that the menopause is accompanied by discharges. The laity should be taught that all women who have hemorrhagic or other discharges after 30 should be sent to a skilled gynecologist for diagnosis in order that the question whether or not cancer is present may be decided. The average family doctor can not make this diagnosis at an early period. The next question, he said, is the one of radical operation. This operation, as presented by von Rosthorn, is the logical operation. If the question were to be decided on *a priori* grounds, it would be accepted at once. Three years ago Dr. Noble had the privilege of seeing Prof. von Rosthorn do the radical operation. In one hour and five minutes the operation was completed without any appreciable loss of blood. The abdomen was closed by the tier method. Dr. Noble adopted this operation when it was brought out by Clark and Werder. With his ability as an operator it was a serious operation. The primary mortality was high and he had recurrences; therefore, he abandoned it. The studies of the secondary involvement of the glands by Schauta and also by Wertheim tend to throw discredit on the operation; and another practical fact, that it does not accomplish what it sets out to do, namely, remove the disease, is of more weight in leading him to this conclusion. Much connective tissue is left behind the bladder and in front of the rectum; and the so-called radical and complete operation is necessarily incomplete. Since then he has adopted a modified operation. It must not be forgotten that no man has had as good results as Dr. John Byrne, of Brooklyn, who used the electric cautery. Therefore, Dr. Noble has been driven to the conclusion that the best thing to do is an abdominal hysterectomy, to lay bare the ureters and to isolate them, and then to remove everything with the electrothermic clamp below and external to the ureters.

DR. J. W. BOVÉE, Washington, D. C., referred to a paper he published in 1890 in which he reported fifteen cases that he had operated on by this radical method because he had combined a part of the method of Ries, of removing all the glands, and he removed the whole of the vagina and pushed the specimen down through the vulva. He still performs that operation in all the early cases. He thinks that vaginal hysterectomy is inadvisable in any case of cancer of the uterus, and the earlier the stage the more radical should be the operation. In those cases in which he does not feel fairly confident, he resorts only to the curette and to the galvanocautery. In 1888 he operated on a case of cancer in the broad ligament, with nodules surrounding the ureter. He resected the two lower inches of the ureter with the cancerous mass. He was assured at the time that there was no invasion of the ureter, but that the nodules surrounding the ureter were cancerous. This observation has since been corroborated, that is, that carcinoma does not involve the ureter, though it may involve the connective tissue surrounding it.

Dr. Bovée does not believe it to be wise to resect or excect the bladder and implant the ureter. He would prefer doing nothing to the ureter, as is done where the bladder is extirpated, leaving a fistula passing out through the vulva. He does not employ any preliminary vaginal treatment in these cases. His work is all done from above. The ureter is isolated to a certain extent by passing a suture around it to lift it up. A little piece of gauze sufficient to fill the space is stitched to some portion of the tissue to be removed, the peritoneal wall is closed, and the patient is placed in Simon's position when the rest of the operation is done. The gauze comes out with the specimen. There is less tax to the patient's strength by not resorting to curetting. Dr. Bovée invariably ligates the internal iliac artery, and in that way lessens hemorrhage. He has never had any sloughing, and it gives a clear field for operation. As to implantation, he is not sure of its existence. He has seen cancer in the vaginal wall two inches away from the carcinomatous cervix, with apparently healthy tissue intervening.

DR. J. G. CLARK, Philadelphia, said that after a careful review of his experience he very reluctantly has reached the conclusion that more is lost than is gained in the radical operation when the glands are painstakingly extirpated, and that to remove here and there a palpably enlarged gland will certainly not promote the patient's interests so far as a radical cure is concerned. His own rule, therefore, is to remove one or more glands for microscopic examination, provided they are palpably enlarged and easily accessible. If metastasis is found the prognosis inevitably is bad. If, he said, we are not to look for improvement in ultimate results from the radical operation with the removal of the glands, from what operative procedure may the greatest good be gained? Shall it be a high amputation of the cervix, either with the knife or actual cautery, a simple vaginal hysterectomy, a Schuckart's vaginal hysterectomy facilitated by a paravaginal incision, or a radical operation of Wertheim's. Of these various methods he ad-

heres to the abdominal. This he carries out most radically with the actual cautery, so far as the vagina and parametrium are concerned, and in this he reverts to the principle so strongly insisted on by Russell after his study of forty-eight vaginal hysterectomies in the Johns Hopkins Hospital. He found almost invariably that there were recurrences at the site of the vaginal scar, and not in more or less widely remote metastatic areas. The rule, therefore, by which Dr. Clark works is to remove all possible tissue in the vicinity of the primary site of the growth, using the cautery rather than the knife. In general, the principles laid down in Wertheim's latest publications are followed, which consist in the removal of a considerable cuff of the vagina with the uterus, and as much parametrium as is possible, but not prolonging the operation by a dissection of the glands. In acting on this principle Dr. Clark is influenced by the fact that, as yet, no operation has saved 50 per cent. of cases, and that of Wertheim's operable cases, 59 per cent. showed no glandular metastasis, while even in the far advanced cases of Schauta there were 43 per cent. free of lymphatic involvement, and that of the remainder which were involved only 13 per cent. could have had their chances of a more radical cure enhanced by removal of the glands. This small percentage of possibility is at least equalized or more than offset by the much greater immediate mortality of the very radical operation.

Dr. G. Betton Massey, Philadelphia, protested against curetting as being a most unscientific method of treatment for a disease supposed to be parasitic. He regards it as dangerous to allow more than five minutes to pass between curetting and proceeding to the destruction of that growth. The veins and lymphatics are ever aspirating the juices of these wounds. The metastases that appear next year may have been due to the delay caused between the curetting and the operation. He believes that all finally will come to agree with Dr. Noble and Dr. Bovée as to the inapplicability of vaginal cutting operations in any case, and the far greater value of cauterization, though he prefers electro-chemical cauterization. By the cataphoric diffusion of mercury and zinc he gets some excellent results. He can not report a long series of cases of cures by that method because he has seen only three case that were operable. Two of these were cured; one is living and one died after seven years from tuberculosis. The method has been confined almost entirely to inoperable cancer of the cervix and it has been an invaluable palliative. He urged surgeons to take up this method, especially those who know the intolerable stench that comes from even the electro-thermic operation. Cataphoric sterilization controls the odor completely.

Dr. E. W. Cushing, Boston, said that it is nineteen years since August Martin came to Boston and performed the first operations in this country for vaginal hysterectomy. In 1888, one year later, Dr. Cushing reported 21 cases, with 2 deaths. He protested against the pessimism of Dr. Ross because some of these patients are living now. When abdominal operations became better understood, and the modern technic of abdominal hysterectomy was developed, he adopted the most natural procedure, which was to first open the abdomen and tie all the vessels, and separate the uterus as far as possible from above. Then, after closing the abdomen, to finish the operation by vaginal hysterectomy. This he still finds a very good method of operating, since it avoids the danger of infection of the abdominal cavity, and particularly the risk of inoculating the cut surfaces of the vagina with the juices of the cancer, which is the principal reason for recurrences. When all connections have been tied off and severed from above, the uterus can easily be pulled down and out, and the vagina severed, so that a finished operation is thus possible. This method is easier of performance than that described by Werder, which is very difficult in case of a large uterus.

In regard to recurrences he previously reported a case, he said, in which abdominal hysterectomy had been performed by another surgeon, and after a few months there was a manifest recurrence on each side, at the angle of the vault of the vagina. On opening the abdomen there was found on each side a tract of cancerous infection in the broad ligament, and the glands at the junction of the iliac arteries were enlarged, but not adherent. The glands, the cancerous tracts, and the vault of the vagina were thoroughly removed from above, and the patient is now alive and well four years after the original operation.

Dr. H. J. Boldt, New York, believes that an abdominal radical operation is the best theoretically, but there is some practical experience to back the opinion that a vaginal operation may result in a complete cure without recurrence. He opened a woman last week whom he had operated on thirteen years ago for cancer of the cervix, and there was no sign of recurrence. It is known that recurrence occurs more frequently in young patients, but even in young patients the disease may last a number of years before fatal termination. He had a woman under observation for seven years without fatal termination. A very important point, he said, was made by Dr. von Rosthorn, and that is that very much depends on the matrix. That is true. To make a diagnosis of this is impossible. Other points have been mentioned. In this country the anesthetic is too prolonged. A patient should be prepared for operation before the anesthetic is begun. Necrosis of the ureter after abdominal operations does occur. He has had three cases. This may be due to a lack of proper technic, but fortunately only one of the women had to have one of the kidneys removed. Patients should be re-examined at frequent intervals after operation. He has them return at intervals of four weeks for two years.

Prof. A. Dührssen, Berlin, Germany, believes that pregnant women who are exhausted by hemorrhage, can not stand ventral extirpation of the uterus very well. In all other cases he prefers the abdominal route, and believes that by Mackenrodt's method it is possible to operate radically. Dr. Dührssen extirpates the whole connective tissue to such an extent that in several cases he separated the rectum 10 centimeters from its adhesions to the pelvic wall, and there was no bad result, except a diarrhea. He believes that by taking out the connective tissue to such an extent, it is easy to take away all the glands. There is nothing left if the connective tissue is extirpated radically. In 1899, he said he published some papers in which he emphasized the necessity of spreading the knowledge about uterine cancer among the laity, and he tried to win over parliament and the minister, but they declined. He, therefore, wrote a brochure on the subject, which was quoted by the daily press and in several publications for women, and in this way some good results were obtained.

Dr. J. H. Carstens, Detroit, said that Professor Von Rosthorn made that point that cancer is at some time a local disease, and if that is true the diagnosis ought to be made early. If all lacerated cervices were subjected to an examination, such a diagnosis could often be made. No man, he said, can remove all the glands because he does not know where they all are. Cancer is not only in the lymphatics, but it is also in the surrounding loose cellular tissue. In a great many cases the diaphragm lymphatics are involved and no others. He does not believe that abdominal section is a justifiable operation because, although it prolongs the lives of a few women, it shortens the lives of many. To advanced cases, the old operation of removing the cancerous tissue and cauterizing will make the patient comfortable for four or five years, very often.

Dr. Philander Harris, Paterson, N. J., said he performed his first vaginal hysterectomy in November, 1897, for unmistakable cancer of the uterus. The woman is still living and in excellent health. He has since removed the uterus by the vaginal route in more than one hundred cases. Most of these were cancerous. Some of the cancer cases are still living, one or two of them are showing no signs of return, although several years have elapsed since operation. The removal of the cancerous uterus by the suprapubic route with extensive dissections, has afforded very much higher mortality than the operation of hysterectomy by the vaginal route.

Dr. Thomas S. Cullen said that Dr. Kelly and his associates are all in accord that the abdominal method is the only satisfactory and scientific one to employ, except when the patient is exceptionally stout. The abdominal operation for cancer is one of the most difficult in the whole range of surgery. Not only should the patient be strengthened as much as possible, but the surgeon should also be in the best of trim. It should be the first operation for the day and should be

performed early in the day before the surgeon is in the least fatigued by other duties.

DR. E. RIES, Chicago, said that as long as men say, "I had a patient that lived five years," and say nothing about the hundred that are dead, no progress can be made. Dr. Byrnes, of Brooklyn, had few recurrences and a man in St. Louis reported that all his cases are well. He asked what could be done with such statistics. It is agreed from all that is known on the pathology of cancer, that vaginal hysterectomy, in a very few cases, is able to get away all the carcinomatous tissue, but that abdominal hysterectomy, with the radical method which he has proposed, is better. But if carcinoma progresses from the uterus to the liver, the removal of the uterus does not remove it from the liver. Such cases should not be operated on. This operation is not a panacea. It will remove more than the old operation, but that is all. It is true the operation is dangerous. Is carcinoma less dangerous? Surgeons claim that they save so many patients by modern radical operation. What becomes of the cases? Have they been saved? Dr. Ries asked that they be hunted up five years after the operation and then reported on.

PROF. A. VON ROSTHORN, Heidelberg, Germany, said that usually, in teaching his pupils about carcinoma uteri, he tells them a story. When he was assistant to Chrobak, in Vienna, two patients were brought in. One was a young, healthy looking woman, and, on examination, she had a little cauliflower growth on the anterior lip of the vaginal portion. It was a beautiful case for vaginal extirpation. It was taken out in twenty minutes and in two weeks the patient left the hospital. The same day a woman, 70 years old, came in with a totally inoperable case of carcinoma with immovable uterus. There was nothing to be done. She was, however, curetted. This woman lived two years longer than the young woman with the simple little cauliflower growth. Jacobs, of Brussels, in 80 cases he cites, saw none who lived longer than two years. In some cases it is possible to get it all out and in others it is not, and there is a recurrence in both. There is nothing certain. If this operation is done in initial cases, we will get better and permanent results. The mortality is high. Jacobs, of Brussels, has only 6.3 per cent.; his first series was 9.1 per cent.; Zweifel, 9.6 per cent. One man, he said, will advise operation only when the cancer is localized in a small spot, and with a restricted operation he may get good results. Olshausen has good results, 40 per cent. with the vaginal operation. He gets all good cases in the initial stage. There are limits to the abdominal operation, but present knowledge may change in the course of a few years. Sometimes a whole breast and the glands are removed and recurrences take place; then, again, only a little is removed, and no recurrence occurs. It is wrong, he said, to say that if the cancer is localized a vaginal operation should be done, and if it has gone farther, an abdominal operation is indicated. According to our present teaching the abdominal method is the correct one.

As to curettement and ligation of the ureter. Curetting is done as a preparatory stage, where the tissue is broken down, and even Wertheim does it now. It is necessary to have a perfect field, as clean as possible. It is only palliative at best, but it reduces hemorrhage and lessens the bad discharge, but nothing else. Physiologists have taught that a ligation of the ureter can be done, and if the other kidney is in good working order, there is nothing to fear. Dr. von Rosthorn did it only in those cases in which he had to do an operation lasting two hours, and the patient was exhausted. Seeing that atrophy followed without disturbance he did it again in several other cases and he has seen no bad results from its use. He would not, however, recommend it as a regular procedure. Schauta's examinations have been done on cancer cadavers where everything was full of cancer, and he found all the glands invaded with cancer. He thinks that if the patients who die after an operation for carcinoma in the primary state were examined it would be ascertained whether or not it is reasonable to take out the glands.

Naming of Carbon Compounds.—The ending ose indicates a sugar, thus lactose, glucose, fructose, sucrose, etc.—*Pharm. Rev.*, August, 1906.

FIBROID TUMORS OF THE UTERUS.

A STUDY OF THE DEGENERATIONS AND COMPLICATIONS IN TWENTY-TWO HUNDRED AND SEVENTY-FOUR CASES,† ALSO A STUDY OF FORTY-EIGHT HUNDRED AND EIGHTY CONSECUTIVE CASES IN THEIR RELATION TO CARCINOMA AND SARCOMA OF THE UTERUS.*

CHARLES P. NOBLE, M.D.
Surgeon-in-Chief, Kensington Hospital for Women, Gynecologist to the Stetson Hospital.
PHILADELPHIA.

As early as 1894, as a result of the observation of the clinical history of women suffering from fibroid tumors, I became convinced of the fallacy of the classical teachings concerning the natural history of these tumors. At that time I had operated on but thirty women suffering from fibroid tumors. In the conclusion of a paper read in 1894,[1] I said:

> The comparatively small number of operations which I have done for fibroid tumors is evidence of the fact that for a long time I was profoundly influenced in my practice by the classical teaching concerning this disease. It was not until my own observations convinced me of the fallacies of the past teaching that I felt justified in resorting to the removal of fibroid tumors except in the worst class of cases. I am coming more and more to believe, however, that it is the part of wisdom to remove fibroid tumors which are producing symptoms as soon as they are discovered. In other words, that the principle of early operation which is now generally accepted with reference to ovarian tumors is equally applicable in the treatment of fibroid tumors.

During the past twelve years every phase of the subject of fibroid tumors of the uterus has engaged my attention and diligent study, and I desire to present the results of my own experience with the subject and my study of its literature.

In 1897, sixty-six hysteromyomectomies had been performed.[2] The degenerations and complications present in these 66 women were tabulated and analyzed, and the conclusion was drawn that 20 of the women, or about 30 per cent., would have died as a result of degeneration in the tumor itself or of the complicating diseases of the uterus, the tubes or the ovaries.

In 1901, the number of patients operated on for fibromyoma of the uterus had increased to 218. These cases were tabulated, analyzed, and studied in a paper read before the British Gynecological Society.[3] The complications and degenerations were divided into three classes: (1) Those which would lead to the death of the patient; (2) those threatening the life of the patient; and (3) those predisposing to more or less permanent invalidism of the patient. Of the 218 women operated on, it was estimated that 66, or 30 per cent., would have died from the complications and degenerations present; that the lives of 25 were threatened, and that in 30 others the patients were suffering from more or less permanent invalidism.

In this connection, the idea was developed that the proper method of studying the real nature of fibroid tumors was to study a consecutive series of cases, care-

† Including 337 cases of the writer's.

* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Fifty-seventh Annual Session, June, 1906.

1. Noble: "Uterine Fibroids," Med. and Surg. Reporter, June 2, 1894.

2. Noble: "The Development and the Present Status of Hysterectomy for Fibromyomata," Trans. Amer. Gyn. Soc., 1897.

3. Noble: "The Complications and Degenerations of Fibroid Tumors of the Uterus as Bearing on the Treatment of These Growths," Brit. Gyn. Jour., November, 1901.

fully noting the natural history of the tumors, the degenerations present in the tumor itself, and the complications present in the uterus, in the adnexa and in other organs. It was held that in this way only a true estimate of the dangers of fibroid tumors could be reached. Reference was made to the only paper previously published in any way bearing on the subject, in which the complications of fibroid tumors in the tumor and uterus itself met with in 205 cases were tabulated by August Martin.[4]

Such questions were discussed as sarcomatous degeneration, necrosis of the tumor, the relation of the menopause to fibroid tumors, the disappearance of fibroid tumors after the menopause and after labor, the ages of the patients operated on, sterility, phlebitis, embolism, anemia, carcinoma as a complication, and death from fibroid tumors in the natural history of the disease. The conclusion was drawn that upward of one-third of all women suffering from fibroid tumors would die without operation, as contrasted with a mortality of less than 10 per cent. from operation.

The plan advocated in that paper, to study definite consecutive series of cases, bore fruit, and since that time a number of valuable papers have appeared, each paper consisting of a study of a consecutive series of fibroid tumors treated by operation; so that, at the present time, I am able to present for your consideration a study of the degenerations and complications in 2,274 cases of fibromyoma of the uterus.

It must be insisted on that each of the series reported by the various authors is *consecutive*. The importance of this fact is at once evident, as it means that the entire subject is presented for consideration and not merely a study of the particular phases of the subject or the particular case which may have interested the individual authors. The series, in the order of publication, is as follows:

Martin	205	McDonald	280
Noble	337	Lauwers	200
Cullingworth	100	Eastman	117
Frederick	125	Webster	210
Scharlieb	100	Martin, F. H.	200
Watt-Keen (Hofmeier's clinic)	300	Total	2,274
Hunner	100		

Complications and Degenerations in 2274 Cases of Fibroid Tumors. Conditions Relative to the Tumor and Uterus.

Condition.	Number.	Percentage.
Carcinoma of the corpus uteri	42	1.8
Epitheliomatous infiltration of a fibroid tumor arising from adenocarcinoma of the corpus uteri by metaplasia	1	..
Carcinoma of the cervix uteri	16	.7
Sarcoma	34	1.4
Chorioepithelioma	2	..
Necrosis of tumor	119	4.7
Myxomatous degeneration	89	3.4
Cystic degeneration	58	2.5
Hyaline degeneration	72	3.1
Hyaline degeneration and calcareous infiltration	6	.25
Fatty degeneration	7	.30
Hemorrhagic degeneration	13	.57
Calcareous infiltration	39	1.7
Edema of tumor	17	.74
Twisted pedicle, pedunculated tumor	3	.13
Dangerous uncontrollable hemorrhage	41	..
Intraligamentous development of tumor	80	3.5
Subvesical development of tumor	2	..
Adenomyoma	12	..

Conditions Relative to the Uterus.

Condition.	Number.
Procidentia uteri	15
Retroversio uteri	29
Pregnancy	13
Pregnancy, ectopic	6
Pregnancy, ectopic, salpingitis and hydrosalpinx	1
Endometritis, senile	3
Endometritis, suppurating	5

Conditions Relative to the Ovary.

Condition.	Number.
Dermoid cyst	10
Dermoid cyst, suppurating	6
Dermoid cyst, with twisted pedicle	1
Dermoid cyst, suppurating; sinus through abdominal wall from drainage operation	1
Dermoid cyst, bilateral; umbilical hernia	1
Ovarian cyst, suppurating	4
Ovarian cyst, with twisted pedicle	2
Ovarian cyst, bilateral	16
Ovarian cyst, unilateral	115
Cystic degeneration of ovaries	87
Chronic interstitial oöphoritis, bilateral	31
Chronic interstitial oöphoritis, unilateral	3
Calcification of ovary	1
Fibroma of ovary	3
Carcinoma of ovary	4
Papillary carcinoma of both ovaries	1
Hematoma of ovary	15
Abscess of ovary, bilateral	2
Abscess of ovary, unilateral	9
Tubo-ovarian abscess	2
Parovarian cyst	14

Conditions Relative to the Uterine Ligaments.

Condition.	Number.
Cyst of broad ligament	2
Hematoma of broad ligament	1
Abscess of broad ligament	1
Myoma of uterine ligaments	4

Conditions Relative to the Fallopian Tubes.

Condition.	Number.
Hematosalpinx	10
Pyosalpinx, bilateral	33
Pyosalpinx, unilateral	36
Pyosalpinx and tubo-ovarian abscess	2
Hydrosalpinx, bilateral	17
Hydrosalpinx, unilateral	68
Hydrosalpinx and tubo-ovarian abscess	1
Salpingitis, bilateral	48
Salpingitis, unilateral	66
Salpingitis and pyosalpinx	7
Salpingitis and hydrosalpinx	3
Salpingitis and tubo-ovarian abscess	3
Fibroma of Fallopian tube	1
Papilloma of appendages	1

Conditions Relative to the Pelvis Outside of the Tumor, Uterus or Appendages.

Condition.	Number.
Varicose veins of the pelvis	9
Thrombosis of veins of lower extremities	2
Chronic pelvic peritonitis	4
Tubercular peritonitis	4
Universal adhesions	4
Adhesions to viscera	34
Adhesions to tumor	8

Conditions Relative to Pressure from the Tumor.

Condition.	Number.
Intestinal obstruction, chronic, from tumor pressure	7
Intestinal obstruction, acute, from tumor pressure	2
Dilated ureters from tumor pressure	2
Hydronephrosis, large, from tumor pressure	2

Conditions Relative to Complications Outside of the Pelvis.

Condition.	Number.
Appendicitis	84
Hernia	7
Hernia, ventral	7
Hernia, umbilical	7
Carcinoma of umbilicus	1
Extreme anemia from hemorrhage	41
Phthisis pulmonalis	2
Total	1,553

Total, 1,553 cases complicated in 2,274, or 68 per cent.

This formidable list of degenerations and complications in the tumor and uterus encountered in 2,274 women operated on for fibroid tumor by no means portrays the entire list of complications. For example, in the lists of both Cullingworth and Scharlieb, the authors expressly exclude all patients operated on for necrotic fibroids by the vaginal route, on the ground that no one questions the necessity for operations in such cases. Likewise, in Lauwers' list, only abdominal hysterectomies are tabulated, whereas, if the tumors operated on by the vagina were included, the percentage of necrosis would inevitably be higher, as the necrotic submucous fibroids, almost without exception, are operated on by the vaginal route. Among the early cases in my own experience, there is no doubt that no record was made of many of the degenerations, more especially such as myxomatous degeneration, edema and the earlier stages of cystic degeneration.

4. Martin: "Pathology and Therapeutics of the Diseases of Women," Boston, 1900.

CONDITIONS RELATIVE TO THE TUMOR AND THE UTERUS IN 2,274 CASES WHICH WOULD BE FATAL WITHOUT OPERATION.

Condition.	Number.
Carcinoma of the corpus uteri	42
Epitheliomatous infiltration of a fibroid tumor arising from adenocarcinoma of the corpus uteri by metaplasia	1
Carcinoma of the cervix uteri	16
Sarcoma	34
Chorioepithelioma	2
Necrosis of tumor	119
Cystic degeneration	58
Twisted pedicle, pedunculated tumor	3
Total	275
	12 per cent.

A certain number of myxomatous and hyaline degenerations and cases of edema of the tumor would become cystic or necrotic, which would probably increase the mortality in this class of cases 3 or 4 per cent., and thus give a mortality of from 15 to 16 per cent.

From this table the conclusion must be drawn that of the 2,274 women 275, or 12 per cent., would have died from the degenerations and complications in the tumor and uterus itself had operation not been performed; and, in addition, an unknown number would have died from myxomatous and hyaline degenerations and edema of the tumor.

It is of interest to compare this large series of 2,274 cases with the total number of fibroid tumors which have come under my own observation (337) and also with my last 100 abdominal hysterectomies for fibroid tumor.

CONDITIONS RELATIVE TO THE TUMOR AND UTERUS IN THE WRITER'S 337 CASES WHICH WOULD BE FATAL WITHOUT OPERATION.

Condition.	Number.
Adenocarcinoma of the corpus uteri	8
Epithelioma tous infiltration of a fibroid tumor arising from adenocarcinoma of the corpus uteri by metaplasia	1
Carcinoma of the cervix uteri	5
Sarcoma	2
Chorioepithelioma	1
Necrosis of tumor	22
Cystic degeneration of tumor	7
Twisted pedicle, pedunculated tumor	2
Total	48
	14 per cent.

CONDITIONS RELATIVE TO THE TUMOR AND UTERUS WHICH WOULD BE FATAL WITHOUT OPERATION, IN THE WRITER'S LAST 100 CONSECUTIVE CASES SUBJECTED TO ABDOMINAL HYSTERECTOMY.

Condition.	Number.
Carcinoma of the corpus uteri	5
Epithelioma tous infiltration of a fibroid tumor arising from adenocarcinoma of the corpus uteri by metaplasia	1
Carcinoma of the cervix uteri	2
Cystic degeneration of the tumor	2
Necrosis of tumor	4
Twisted pedicle, pedunculated tumor	1
Total	15
	15 per cent.

Thus, in the total series of 2,274 cases, 12 per cent. are estimated as fatal; in the series of 337 of my cases, 14 per cent. are estimated as fatal; and in the last 100 hysterectomies in my practice, 15 per cent. are estimated as fatal from degenerations in the tumors or complications existing in the uterus.

OPERATION PERFORMED FOR FIBROID TUMORS OF THE UTERUS BY THE WRITER TO FEB. 26, 1883.

Condition.	Number.
Abdominal supravaginal hysterectomies	238
Abdominal panhysterectomies	14
Abdominal myomectomies	22
Removal of ovaries, etc.	18
Celiotomies	290
Vaginal hysterectomies	7
Vaginal myomectomies	44
Total	337

DEGENERATIONS AND COMPLICATIONS OF FIBROID TUMORS IN A SERIES OF 337 CONSECUTIVE CASES, IN THE PRACTICE OF THE WRITER.

CONDITIONS RELATIVE TO THE TUMOR AND UTERUS.

Condition.	Number.
Adenocarcinoma of the corpus uteri	8
Epithelioma tous infiltration of a fibroid tumor arising from adenocarcinoma of the corpus uteri by metaplasia	1
Carcinoma of the cervix uteri	5
Sarcoma	2
Chorioepithelioma	1
Necrosis of tumor	22
Myxomatous degeneration	8
Cystic degeneration of tumor	7
Calcareous infiltration of tumor	7
Twisted pedicle, pedunculated tumor	2
Hyaline degeneration of tumor	3
Intraligamentous development of tumor	21
Adenomyoma	4

CONDITIONS RELATIVE TO THE UTERUS.

Condition.	Number.
Procidentia uteri	6
Retroversio uteri	9
Pregnancy, ectopic	3

CONDITIONS RELATIVE TO THE OVARY.

Condition.	Number.
Dermoid cyst	1
Dermoid cyst with twisted pedicle	1
Dermoid cyst, suppurating; sinus through abdominal wall from drainage operation	1
Dermoid cyst, bilateral; umbilical hernia	1
Ovarian cyst, suppurating	3
Ovarian cyst, with twisted pedicle	1
Ovarian cyst, bilateral	3
Ovarian cyst, unilateral	26
Cystic degenerations of ovaries	11
Chronic interstitial oöphoritis, bilateral	2
Adenocarcinoma of ovary	1
Papillary carcinoma of both ovaries	1
Abscess of ovary, unilateral	2
Parovarian cyst	3

CONDITIONS RELATIVE TO THE UTERINE LIGAMENTS.

Condition.	Number.
Abscess of broad ligament	1

CONDITIONS RELATIVE TO THE FALLOPIAN TUBES.

Condition.	Number.
Hematosalpinx	1
Pyosalpinx, bilateral	10
Pyosalpinx, unilateral	9
Hydrosalpinx, bilateral	11
Hydrosalpinx, unilateral	5
Salpingitis, bilateral	6
Salpingitis, unilateral	11

COMPLICATIONS OUTSIDE OF THE TUMOR, UTERUS AND APPENDAGES.

Condition.	Number.
Chronic pelvic peritonaitis	4
Appendicitis	17
Total	236

THE RELIABILITY OF THE TABLES EMBRACED IN THIS PAPER.

The common statement that statistics are misleading is familiar to us all. With reference to the tables and statistics in this paper, every care has been taken to make them accurate. My own series of 337 cases has been tabulated by Dr. Stephen E. Tracy, who has prepared the tables for all my various papers (including this one) on fibroid tumors for the past six years. In but two instances was any liberty taken as to including or excluding a case from the table. In one case, in which an operation was attempted for cancer of the cervix, it was abandoned because of secondary cancerous deposits. The woman had a fibroid tumor, but it was considered best to exclude the case. In another instance, a woman was operated on for pelvic abscess and a hysterectomy was performed. In the pathologic report it was stated that a tiny fibroid was present in the uterus. This case also was excluded. In both instances it was felt that the tables would be more accurate by excluding these borderline cases. Otherwise the facts are as found in the records. There is no doubt, however, that numerous degenerations and complications have been omitted in my early cases, because at that time I was not in the habit of making such careful records when a patient was operated on for fibroid tumor. That diagnosis alone was recorded. Hence the facts as to degenerations and complications in my own series are worse than the figures given.

In editing the reports of others, in order to simplify and shorten the list of complications and degenerations, the following changes were made:

Serious adhesions to soft parts, extensive intestinal adhesions and adhesions, are classified with adhesions to viscera.

Suppuration, necrosis in center of tumor and necrobiosis, are classified with cases of necrosis.

Malignant adenocystoma of the ovary is classified with carcinoma of the ovary. Ovarian cysts, large, are classified with ovarian cysts. Abscess of ovary is classified with abscess of ovary, single. Cases of salpingo-ovaritis are classified as salpingitis.

All cases of ovarian cyst, pyosalpinx, hydrosalpinx and salpingitis, in which mention was not made whether the condition was bilateral or unilateral, are classified as unilateral.

The tables from the recent German literature have been prepared by Dr. Brooke M. Anspach.

In the discussion of a former paper on fibroids, one physician spoke of the statistics supplied as prearranged, conveying the implication that, having a theory to sustain, I have collected statistics which would uphold the theory. Not to refute such an implication, but in the interest of truth, I would draw attention to the following facts:

Cullingworth, Scharlieb, Kelly and Winter, from whom more than half of the cases have been secured, are adherents of the classical position; namely, that the gravity of fibroid tumors should be estimated by the symptoms which they produce at the time they are under observation, and that operation is only indicated at a given time when the symptoms present threaten life.

If the facts supplied by these gynecologists are contrary to the classical teaching, it is simply additional evidence of its fallacy.

THE FACTS WITH REFERENCE TO THE DEGENERATIONS AND COMPLICATIONS OF FIBROID TUMORS ARE WORSE THAN INDICATED BY THE TABLES.

In various sections of this article reference has been made to the omission of degenerations and complications by different gynecologists from whom tables have been taken for some particular reason which appealed to them, together with the statement that had these complications been included it would make the facts shown by the tables worse than they now appear. It must not be forgotten, also, that, in recording the degenerations and complications found in women operated on for fibroid tumors, the system in use in clinics is not perfect, and that many such degenerations and complications, therefore, have not been recorded. This is certainly true of my own early cases. It is also evident in reading the lists of complications that many are omitted. Only nine cases of varicose veins of the pelvis are recorded; only two of thrombosis of the veins of the lower extremity; only four of chronic pelvic peritonitis; only thirty-four of adhesions to viscera; only five of adhesions to the tumor; no case of cystitis (a frequent complication); only three of twisted pedicle (two from my own series); and no case of phlebitis or thrombosis, although I have seen at least two myself. Any one familiar with fibroid tumors, as they are seen in the operating room, will at once see that there are many omissions in the tables covering a series of 2,274 cases. All of us, also, are influenced by our early teachings. Doubtless the number of cases of cancer is far larger than is reported in the tables, because if a well-developed cancer is complicated by a small fibroid, the cancer being the major condition for which the operation is done, the fibroid makes little or no impression on the surgeon, and frequently in the past, no doubt, its presence has not been recorded. The same is true of pyosalpinx, ovarian abscess and ovarian tumor, when existing in association with a small fibroid tumor of the uterus. The influence of tradition has doubtless caused the omission of any record of the fibroid in many of these cases.

These facts are insisted on to demonstrate the fallacy of the argument that the tables make too bad a showing, because of the women having fibroid tumors who are not operated on and, therefore, are omitted from the tables. There is no doubt that a certain percentage of fibroid tumors are not removed, but at the present time, sooner or later, a great majority of them are removed. It is easy to state that many women have fibroid tumors which produce no symptoms and that, therefore, they do not consult a physician; but it is at once manifest that this is a bald statement without any evidence in its support. That there are such cases all will admit, but that they are frequent there is no evidence whatever. If those who support the classical or traditional position wish to furnish a valuable contribution to our knowledge of the subject, they should study the autopsy records of almshouses, old women's homes and similar institutions, in which consecutive autopsies are made and recorded. If such records are to be found, made under definite conditions, it would be possible to throw some light on the frequency of fibroid tumors which produce few or no symptoms. I know of no other way of arriving at these facts.

CANCER AS A COMPLICATION OF FIBROMYOMATA.

The relation of fibroid tumors of the uterus to cancer of that organ is one of special interest. In discussing my own experience with this question in 1897, I stated that it indicated that malignant disease may be a more frequent complication of fibroid tumors than is usually believed. In 1901, in 218 patients I had seen adenocarcinoma of the body of the uterus in 3 and epithelioma of the cervix uteri in 4. This fact led to the statement that in proportion to its relative frequency adenocarcinoma of the body of the uterus is more often associated with fibroid tumors than is the more common squamous epithelioma of the cervix. In 1904, in 278 women having fibroid tumors there were 4 cases of epithelioma of the cervix and 6 cases of adenocarcinoma of the corpus uteri.[5] As the usual ratio between epithelioma of the cervix and adenocarcinoma of the corpus uteri is probably as 10 to 1, the fact that in this series 6 cases of cancer of the body of the uterus were encountered, as compared with 4 cases of cancer of the cervix, led to the belief that the irritation in the uterus and more particularly in the endometrium, or changes in the nutrition of the uterus, arising from the presence of fibroid tumors in the uterus, bears a causal relation to the development of cancer.

The usual ratio of epithelioma of the cervix to adenocarcinoma of the corpus uteri is given by Cullen[6] as 4 to 1. That is, he examined 35 cases of cancer of the corpus uteri and 147 cases of cancer of the cervix, in the gynecologic service at the Johns Hopkins Hospital.

Winter[7] gives the ratio as 15 to 1. That is, in 2,331 cases of cancer of the uterus compiled from various German authors and including 210 cases of his own, Winter found 1 carcinoma of the body of the uterus to every 15 carcinomata of the cervix.

5. Noble: "The Nature of the Indications for Operation for Fibroid Tumors of the Uterus," Amer. Medicine, Sept. 10, 1904, p. 451; and, "The Treatment of Fibroid Tumors of the Uterus," The Journal A. M. A., May 21, 1904.

6. Cullen: "Cancer of the Uterus," N. Y., 1900, p. 3.

7. Winter: "Die malignen und benignen Degenerationen der Uterusmyome," Ztschr. f. Geburts. und Gynäk., 1906, vol. lvii, No. 1, p. 10.

Sinclair[8] states that from 2 to 3 per cent. of all cases of cancer of the uterus are instances of cancer of the fundus.

Williams[9] states that of 160 consecutive cases of cancer of the uterus coming under his observation only 4 were cancers of the corpus uteri, or 1 in 40. He states that the reason some other authorities give a higher ratio is that their estimate is based on patients who are operated on, instead of on the ratio as it exists when patients consult the physician, and that there are far more inoperable cancers of the cervix than of the corpus uteri.

It is evident that there is a difference of opinion as to the usual ratio between cancer of the cervix and cancer of the body, but as seen in the operating room it is probable that a mean between the statement of Cullen and that of Winter is approximately correct, and may be assumed as 10 to 1.

In the total series of 2,274 cases, there have been 43 cases of adenocarcinoma of the body of the uterus (1.8 per cent.) and 16 cases of cancer of the cervix (0.7 per cent.).

In my own series of 337 cases, there have been 9 cases of cancer of the corpus (2.6 per cent.) and 5 cases of cancer of the cervix uteri (1.4 per cent.).

In the last 100 cases of fibroid tumors operated on by me by abdominal hysterectomy, there were 5 cases of adenocarcinoma of the body of the uterus, 1 case of epitheliomatous infiltration of a fibroid tumor arising from the adenocarcinoma of the corpus uteri by metaplasia, and 2 cases of cancer of the cervix, which makes 6 cases of cancer of the body of the uterus to 2 of cancer of the cervix, and which constitutes 8 per cent. of fibroid tumors complicated by cancer of the uterus—a very striking experience.

In view of the usual ratio of frequency existing between cancer of the cervix and cancer of the body of the uterus, the conclusion seems to be inevitable that the development of the adenocarcinoma of the corpus uteri is favored by the presence of fibroid tumors in the uterus. With the usual ratio, for 43 cancers of the body of the uterus there should have been 430 cancers of the cervix instead of 16 as reported.

In addition to the 2,274 consecutive cases which have been collected for the study of all the degenerations and complications of fibroid tumors, I have been able to collect 2,606 additional cases for the study of the relation of fibroid tumors of the uterus to carcinoma and sarcoma of that organ.[10]

Winter[2] has studied 1,607 consecutive cases of myoma from the clinics of Hofmeier, Fehling and himself, in which there were twenty carcinomata of the corpus uteri, or 1.2 per cent.; also 1,270 cases of myoma from the clinics of Hofmeier, Freund and himself, in which there were 25 cases of carcinoma of the cervix, or 2 per cent.

In order to reduce these figures to a percentage basis for statistical uses, as Winter has studied a different number of patients having cancer of the body than of patients having cancer of the cervix, I will take the liberty of assuming that if in 1,270 cases of fibroid tumor there were 25 cancers of the cervix, in 1,607 cases of fibroid tumors there would be 31 cancers of the cervix. That this is practically correct is indicated by the fact that if the statistics of Hofmeier and Winter, which figure in both lists, are taken, omitting those of Freund and Fehling, the proportion would be, if in 1,198 cases of fibroid tumor were found 24 cases of cancer of the cervix, in 1,607 cases there would be found 32 cancers of the cervix.

In Kelly's clinic at the Johns Hopkins Hospital, in 999 cases of fibroid tumor of the uterus (private communication), in which myomectomy was performed 308 times and hysteromyomectomy 691 times, cancer of the corpus uteri was found in 12 cases and cancer of the cervix was found in 16 cases. Adding the 2,274 cases of the original table to the 999 from Kelly's clinic and the 1,607 from Winter's paper, gives a total of 4,880 cases of fibroid tumor of the uterus in which cancer of the cervix was present in 63 cases and cancer of the corpus uteri in 75 cases, making a total of 138 cases of cancer in the 4,880 cases, or 2.8 per cent. Subdividing these, we find that cancer of the cervix was present in 1.29 per cent. and cancer of the corpus uteri in 1.54 per cent. It is interesting to compare these figures with my personal experience in 337 cases, in which cancer of the cervix was present in 5 cases and cancer of the corpus in 9 cases; and with the last 100 abdominal hysterectomies for fibroid tumors performed by me, in which cancer of the cervix was present in 2 cases and cancer of the body in 6 cases. This indicates, I believe, that in the total series cases of cancer have been omitted from the table because of the influence of tradition. When the gynecologist has operated for cancer, the presence of a fibroid tumor has not been recorded, and thus the ratio between fibroid tumors of the uterus and cancer appears to be less in the table than is actually true.

Piquand[11] concludes from a study of the literature that primary carcinoma developing in the midst of a fibroma is possible, though rare. He has collected 24 cases, most of which appear to be indisputable. He explains this development of carcinoma on the ground that there has been an inclusion of mucous membrane from the uterine mucosa which has grown into the tumor and from which has developed the primary carcinoma. In other words, he attributes the development of carcinoma in the fibroid itself to the processes which take place in the development of adenomyoma.

Under the title of the coexistence of fibromyomata and cancer, he discusses (1) the coexistence of fibromyomata and cancer of the uterine body, and (2) the coexistence of fibromyomata and cancer of the neck of the uterus. He has collected 179 cases of the coexistence of fibromyomata and cancer of the corpus uteri. He states that cancer of the corpus uteri is eight or nine times more frequent in women having fibroid tumors than in those without this lesion, and draws the same conclusion from his study of the literature that I had drawn, namely, that fibromyomata predispose to the development of cancer of the corpus uteri. He also believes that the presence of a fibroid tumor favors the development of cancer of the cervix.

As Piquand's monograph is not based on the study of a consecutive series of cases, it is only of relative value for the purposes of this paper with its strict limitations, but his conclusions support those to which I have been driven from the study of more definite material.

8. Sinclair: "Malignant Diseases of the Uterus," Allbutt and Playfair's System of Gynecology, 1896, p. 656.

9. Williams: "Uterine Tumors, Their Pathology and Treatment," London, 1901, p. 196.

10. There is a partial reduplication of cases in this paper. Thus Watt-Kerr's 300 cases were reported from Hofmeier's clinic, and Winter's paper includes 445 cases from Hofmeier's clinic. How much the reduplication actually is, is not apparent, as no dates are given.

11. Piquand: "Fibromes et Cancer utérins," Ann. de Gyn. et Obstet., July, August, September, second series, 1905, vol. ii, pp. 393, 583.

Klein,[12] in a study of 406 uterine myomata, reports that in 206 patients operated on there existed as a complication either sarcoma or cancer of the uterus in 10 cases, or 4.85 per cent.

One of the recent converts to the view that the presence of a fibroid tumor in the uterus predisposes to the development of cancer is Cullen,[13] of Baltimore. He states that my paper first aroused gynecologists to an appreciation of the danger of allowing myomata to remain year after year without operative interference, and adds that in going over the large number of myoma cases in the Johns Hopkins Hospital clinic he has been surprised at the number of instances in which myomata are associated with cancer either of the body or of the cervix, and also of the relatively frequent occurrence of sarcomata developing in myomatous tumors. Cullen was prepared to accept the views which I advocated because of his experience as a pathologist, which taught him that fibroid tumor and cancer are frequently associated. In 1904, in discussing McDonald's paper before the Philadelphia Obstetrical Society, he supported my position, and stated that the material at the Johns Hopkins Hospital, embracing about 1,000 fibroid tumors, taught the same lessons which I had drawn from my own experience and from the literature.

Winter,[7] in his last article, commits himself to the view that there is a distinct connection between fibroid tumors of the uterus and carcinoma of the corpus uteri, and that the carcinoma probably results from the hyperplastic condition of the endometrium existing in consequence of the myoma. In 1898,[14] he had drawn attention to the fact that carcinoma of the uterus in combination with fibroid tumors exists in the ratio of 23 cases of cancer of the corpus uteri to 13 of the cervix. At that time he had drawn no conclusion from these facts. He stated that the relation of the two tumors is uncertain and that one could only speculate about it, and that the solution of the problem must be left to the future.

From the study of the 4,880 consecutive cases of fibroid tumor of the uterus in their relation to cancer of that organ, the conclusion seems inevitable that fibroid tumor of the uterus predisposes to the development of cancer of the corpus uteri. Were this not true, with the 75 cases of cancer of the corpus uteri existing in this series there should have been found 750 cases of cancer of the cervix, on an average calculation. Even taking the minimum estimate of Cullen, there should have been 300 cases of cancer of the cervix, whereas but 63 were present. To explain this as an accidental circumstance in such a large series of cases (more especially from the standpoint of my own experience, which speaks even more strongly than the total series) would be an assumption so far fetched as to be beyond reasonable bounds. It is my opinion that when this subject is studied in the future and the presence or absence of fibroid tumors, no matter how small they may be, is recorded in connection with all operations on the uterus, when cancer exists in that organ, the data secured will offer stronger evidence than is true of this particular series, in which doubtless the number of cancers given is far below the actual number, because of the influence of tradition in bringing about the failure to record the presence of a fibroid because of its supposed relative unimportance when complicating cancer.[15]

(To be continued.)

12. Klein: "Blutuntersuchungen bei Unterleibsleiden der Frauen besonders bei Uterusmyomen," Centralb. f. Gynäk., 1905, No. 31, p. 969.

13. Cullen: "Immediate Examination of Uterine Mucosa and Myomatous Nodules After Hysteromyomectomy to Exclude Malignant Disease," THE JOURNAL A. M. A., March 10, 1906, p. 695.

14. Winter: "Die bösartigen Neubildungen des Uterus," Veit's Handbuch der Gynäkologie, 1899, vol. iii, second half, p. 245.

15. A statistical study of the relative frequency of cancer of the cervix and cancer of the body of the uterus in women admitted to hospitals, comparing those having fibroid tumors of the uterus with those who have not, would throw definite light on the question of the influence of fibroid tumors on the development of cancer of the corpus uteri and cancer of the cervix. A study of this percentage with the percentage of cancer in women in general, as shown by the vital statistics of cities and the census, would be misleading, for the reason that only selected cases of cancer are admitted to hospitals. The advanced and inoperable cases do not appear in hospital statistics as a rule, but naturally all of them figure in the death list of bureaus of vital statistics.

THE PHYSICAL AND EVOLUTIONARY BASIS OF MARRIAGE.*

BAYARD HOLMES, M.D.
CHICAGO.

The perpetuation of a custom is dependent on the ordinary laws of evolution. Marriage as a union of the sexes and the basis of the family, the primary unit of society, is perpetuated by the action of both physical and psychic factors. It is my purpose to consider one of these physical factors only, the influence of the venereal diseases in initiating and perpetuating monogamy.

The two great venereal diseases, syphilis and gonorrhea, are well recognized as producing sterility or at least diminishing fertility. These diseases are ever contagious and generally spread through the sexual act. The sexual union of adolescents is never attended by gonorrhea and only by inherited syphilis unless one of the parties was previously infected. Such a healthy union is most prolific.

After venereal disease has been acquired by either party the fertility of both is likely to be diminished.

In the earliest stages of society the perpetuation of any tribe or family was largely a matter of numbers and strength at arms. Each little group was at war with every other group, and self-preservation and conquest were matters of endurance and constantly appearing fresh, young warriors. The struggle was a continuous struggle and was taken up by each succeeding generation. Success depended, then, on an unbroken stream of healthy progeny. This was possible when the fecundity of the tribe was undiminished by venereal diseases, a condition secured through monogamous customs while less fertility weakened their polygamous adversaries.

Thus the presence or absence of venereal disease determined the numbers of warriors in any tribe and this, in turn, determined that tribe's success in war. Success in war carried not only the yoke of power, but the yoke of custom. And thus monogamy has become the custom of all successful and all conquering people. It probably originated spontaneously in many places and at many different periods. It is an ever-acting factor and will ever be in such proportion as these diseases are uncontrollable. This physical limitation of the sexual relation is mindful only of fertility. It does not secure the survival of the best, the highest or, considering changing conditions, the fittest.

Other physical factors have acted with this one, but this one was early and has been and probably will be ever acting. Many social and psychic, even religious, legal or economic factors have been called into play to support

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monogamy, but sterility as the result of venereal infection was doubtless the earliest and will ever be the most potent factor in the perpetuation of monogamy. It will act unconsciously and be attended by immeasurable errors and hardships. It will rarely be recognized in its true significance. Like many other factors in the evolution of human life, it is susceptible of artificial guidance or restraint. Such interference, however, is temporary, local and transient.

THE GUARANTEE OF SAFETY IN THE MARRIAGE CONTRACT.*

ALBERT H. BURR, M.D.
CHICAGO.

The most important function of the human body, biologically, is reproduction. Behind this function the Creator placed a dominating, imperative, sexual impulse to insure its activity. This is the animate magnet which attracts and mates the opposite sexes. Through this magnetic force marriage came to be and must forever remain the most sacred and important institution in human society.

The supreme importance of woman in these relations is apparent when we consider her office in prenatal existence; her roll as the nourishing mother; her place as the very foundation stone of every hearth and home, and her life as the vital center about which cluster families and tribes and nations. Around the sexual life of woman are grouped the most potential factors in the perpetuity, development, and highest good of the race, physically, morally and mentally. Around the sexual life of woman also are grouped some of the most adverse and perplexing questions of all time, involving the double standard of morals, divorce, prostitution, and the plague of venereal diseases; questions which seem almost as difficult of practical solution as the problem of perpetual motion.

The welfare of society depends far more on the physical, moral and intellectual excellence of woman than on that of "mere man." In a certain spirit of chivalry, not always free from a selfish bid for her favors, man pays tribute to her great and supreme worth. By the right of might, not always free from injustice and tyranny, he has constituted himself her physical guardian. Her safety then in the marriage contract, which binds them both in a common destiny, should be his most sacred care.

Slowly but surely, coming down through the ages, the leaven of the gospel of the lowly Nazarene is working out a more just solution of the equities of woman in her social, political and property rights. Even for her most unfortunate sister, Magdalene, at whom society casts stones to this day, the Savior had no words of condemnation, but viewing her in compassion, so deftly did he shift the sin on the shoulders of her accusers, that while he stooped to write in the sand they stole away like conscience-smitten cowards.

The progress of man from barbarism to the highest and best types of civilization has no better gauge by which to measure its development than the degree of debasement or exaltation of woman among the different races and nations of men. This uplift of humanity through a better recognition of the inherent rights of woman and her protection in the enjoyment of these rights has been greatly accelerated in our own country during the last half century.

It is a far-away cry from the concubinage of woman under patriarchial rule, when her husband was proprietor of her body and soul, if, indeed, she was credited with a soul, up to the higher ideals of her relations to her consort and to the state.

Animated with a sense of justice in some of these higher ideals we plead for certain sanitary measures, without which it is impossible to guarantee the safety of woman in the marriage contract. In this alliance there are risks from various physical and mental ailments which are shared alike by both parties to the contract, but there are diseases which peculiarly menace the bride at the marriage altar which may and do often transform it into a sacrificial altar, on which health and life itself are immolated. The great prevalence and gravity of venereal diseases, and their communicability during indefinite periods of chronicity and latency, among males of marriageable age, have been set forth with increasing emphasis from the epoch making publications of Noegerath and Neisser down to those of Sanger and Morrow. It is evident that marriage under these circumstances becomes a frequent means of spreading these infections with dire results to innocent wives and their offspring. Only the briefest allusions to the statements of authoritative observers on the baneful effects of these diseases in the home can be made in this paper. Pathologists tell us of their power to maim, blight and destroy human life. Gynecologists estimate that from 60 to 75 per cent. of their operations, chiefly on married women, are made necessary through gonorrhea. Joseph Tabor Johnson says: "The effects of gonorrhea on the female generative organs have been so destructive that no successful contradiction is feared when the belief is expressed that no disease in modern times has caused so much indirect mortality, mutilation and suffering, both mental and physical, as gonorrhea." Matthew D. Mann says: "Practically every case of pus tube is of gonorrheal origin." Joseph Price says that 95 per cent. of his abdominal sections for pelvic inflammation were from gonorrheal infection. Prince A. Morrow says that 70 per cent. of all the women who present themselves for treatment at the New York hospital, under his observation, "were respectable married women who had been infected by their husbands." Thus we are flooded with proof that however unfortunate the effects may be on the male offender, the pathologic relations of gonorrhea to the pelvic organs of helpless wives is a stupendous calamity. If this one disease could be eliminated from wedded life, gynecology as a specialty would shrink to small proportions.

There is another dark chapter in the rôle that venereal diseases play in the marriage relation, by which its supreme object is defeated. These vipers of venery which are called "clap and pox," lurking as they often do, under the floral tributes of the honeymoon, may so inhibit conception or blight its products, that motherhood becomes either an utter impossibility or a veritable curse.

Vedeler investigated 310 sterile marriages and found that 75 per cent. of them were directly or indirectly due to gonorrhea in the husband. The *ein kind sterilität* so-called by the Germans, in which the reproductive powers of the female are extinguished with the first pregnancy, through the extension of the infection previously confined to the cervex uteri, is of common occurrence, while gonorrheal endometritis is perhaps a more frequent cause of abortion than syphilis itself. The ban placed by venereal diseases on fetal life outrivals the criminal interference with the products of conception as a cause

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of race suicide. To this chapter we must append the postnatal effects of blindness, deformity and degeneracy that fill our charitable institutions with their unfortunate victims. Is the picture overdrawn? The "half has never been told."

From marital dangers of this sort the lords of creation consider themselves reasonably safe through the expected virginity and chastity of their intended wives. Through voluntary extra-marital exposures only do they have apprehensions of venereal contagion. On the other hand, "my lady," the innocent, unsuspecting bride, without defense or recourse, too often reaps the "wild oats sown by her husband," which may invalid her for life, deny to her the joys of motherhood, carry her to the operating room or tragically terminate her existence. Let us suppose the tables could be turned for a time, and the husband had to bear the heavier penalties of these diseases to which his wife might lay him liable through the marriage contract, what then? We believe it would not be long till he found a way to guarantee his own safety. It is possible that this guarantee of safety may not be generally assured to woman until she becomes a real American citizen, and through the ballot also becomes a law maker. I venture to say that, if any of the animal industries of our country should suffer from such a scourge as the venereal diseases place on the human family every resource would be taxed to eradicate it speedily and completely.

What barriers are raised to stay this tide of disease and degradation? Practically none. We hide our heads in shame and prudery before the naked truth of it. In silence our tongues cleave to the roofs of our mouths lest we violate the proprieties by the mention of these things, while the suffering and mutilation and slaughter of the innocents goes relentlessly on. It is a disgraceful anomaly in state medicine in the United States of America that the most persistent of all contagions, the most prevalent of all excepting measles, the most costly and dangerous of all in the aggregate, barring none, should have no official existence. It is a fact that no national, state or civic boards of health or sanitary commissions are taking any account of venereal contagions. No appropriations of money or measures are made for their suppression. We can learn much of the Scandinavian nations who handles these matters more effectually. Over thirty years ago they placed gonorrhea and syphilis among the reportable contagions and required physicians to make weekly returns concerning them; with the result that during this period these social pestilences have been reduced by 34 per cent.

The day must come when the suppression of the gonococcus shall rank in sanitary importance with the destruction of the mosquito; when the culture beds of the "red light districts" shall be looked after as carefully as the drainage of stagnant and polluted waters.

We may now more intelligently consider measures which will go a long way toward guaranteeing safety in the marriage contract.

The problems of the social evil which is the great hotbed of these vile diseases we must pass over, with the expression of our conviction that the dismal failure of reglementation everywhere, in limiting venereal diseases, lies in the simple fact that the chief offender, the male purveyor of venereal diseases, is completely ignored in the reckoning and is allowed perfect freedom to scatter his private pestilence wherever he chooses. Neither can we discuss here the educational measures for the prevention of venereal diseases, except to express the belief that our public school instruction should include the physiology and hygiene of the sexual organs as of equal or of greater importance than those of the digestive organs. This instruction of our youths should begin at puberty, when the sexual life is in bloom and its susceptibility to the dangers of venereal parasites has begun. These and all other truly prophylactic or curative measures to diminish the evil are indirectly important in guaranteeing safety to the family, but there is a more vital and strategic point of defense, one portal where the infected male can be halted. To ensure a sanitary marriage it is imperative to establish a quarantine station before the marriage license window over whose gate should hang this legend: *No Health Certificate, No License!*

Every woman who would enter matrimony has the inherent right to do so without the hazard of bodily contamination from already existing contagion in her intended husband. Manifestly, the state is the only power capable of protecting her in this right. It declares marriage to be a civil institution, it places certain restrictions as to who may enter this relation, by whom the ceremony may be performed and on what grounds the bonds may be dissolved. It has the might and the right also to add to these restrictions. We believe no higher obligation rests on the state than to extend its power to protect the vital interests of wives and mothers and offspring by safeguarding the entrance to matrimony from infectious diseases. A few states, North Dakota, Michigan and Indiana, have enacted laws for this purpose; similar bills have failed to pass before many other state assemblies. The first and one of the best enacted is the Creel bill of North Dakota (1899), which requires all applicants for the marriage license first to present a certificate from a medical examining board of three physicians, appointed by the county judge, showing freedom from venereal disease, habitual drunkenness, insanity and tuberculosis. A vital defect of the Indiana bill (1905) is its lack of any provision for medical examination. It requires the State Board of Health to furnish a form of application for license to marry (Sec. 2) and denies the license "where either of the contracting parties is afflicted with a transmissible disease" (Sec. 3). "No license to marry shall be issued except on written and verified application" (Sec. 1). So far as the bill goes this verification may be the sworn statement of the applicant, who is incompetent to determine whether he has a "transmissible disease" or not. Clearly this inspection should be thorough and impartial and made by medical officials of the state under efficient modern clinical and laboratory tests when necessary. Only in this way can there be any adequate guarantee of safety in the marriage contract. Our medical education to-day is fully equal to such demands and could have no more worthy or humane employment.

In this great symposium on the "Duty of the Profession to Womankind" her safety in wedlock should make a strong and sympathetic appeal to the physician, who in all ages has been woman's high priest, to whom she has always turned for ministrations in her helpless hours of distress and pain. He alone has an adequate knowledge of the specific cause, the channels of transmission, the manifold pathology and the deplorable sequelæ of venereal diseases. By these tokens, such a knowledge carries with it a responsibility he may not honorably evade. It reaches further than his private office. It carries him out aggressively onto the higher plane of preventive medicine, of which marital sanitation should certainly constitute its most important field.

Let similar methods of popular education concerning these diseases and their prevention be followed up, which are proving so successful in the campaign waged against tuberculosis. The public must be taken into our confidence in this matter, to secure its co-operation, without which our knowledge is the talent hidden away in a napkin. We must meet it, face to face, in the open. The American Society of Sanitary and Moral Prophylaxis, under the lead of Prince A. Morrow, has instituted just such a move, to interest the laity in the discussion of every phase of venereal diseases and their prevention. There is an immoral side to these diseases which complicates their discussion beyond that of all other contagions. The fact that they are contracted and imparted chiefly through a voluntary act invests them with a criminality in proportion to a knowledge of the possibilities of such an act. Every man, therefore, who infects his wife or taints the blood of his children is more or less a criminal. If we as physicians fail to impart to the public our knowledge of these dangers and means of prevention we become *particeps criminis*. When the public is better informed, intelligent legislation will follow, and wifehood, maternity and progeny will be freed of much of the peril of contagions contracted and imparted by the volitional acts of man.

The duty of the physician seems plain in this matter. He should work, in season and out of season, in private office and in public function, in medical societies and in law-making bodies, until aroused and intelligent public sentiment enacts measures to restrict and to suppress the contagious perils of venery. Only when we have accomplished this can we count on a reasonable guarantee of safety for women in the marriage contract.

EDUCATION AS A FACTOR IN THE PREVENTION OF CRIMINAL ABORTION AND ILLEGITIMACY.*

J. H. CARSTENS, M.D.
DETROIT, MICH.

Illegitimacy can be prevented only by education and the development of self-control in the young. Naturally, it is a slow process so to educate and train the masses that illegitimacy shall cease. The home training, it seems to me, is where the trouble lies at present. The father does not explain to his sons, nor the mother to her daughters, the secrets of reproduction, and the result is, they learn it from some ignorant person and sexual thoughts are given a vicious direction. They hear from others still more and are coaxed and urged to practice the sexual act, and thus easily fall by the wayside. If the mother would explain the physiologic process to her daughter, there would be very little illegitimacy.

If, however, pregnancy has taken place, the crime of abortion must be strongly impressed on the individual, but somehow or another the religious teaching has been very weak on this point. People with the highest moral principles, otherwise, think it perfectly right to produce abortion or to have it produced on them. We can easily see how the unmarried woman becomes desperate and loses her fine sense of right, but for the married woman it is absolutely inexcusable. Appealing then to the moral sense without avail, we must call attention to the great immediate danger and the resulting chronic invalidism in many cases. We must do more, we must help the unfortunate unmarried by showing them a way to avoid exposure and shield them and take them to institutions where they can be safely delivered.

The whole question seems to me more deep-seated than all this. It is our whole social fabric that must be improved. One of the principal causes I think is late marriage. The women will not get married unless the man is rich or has a good income. A man can not have a good income until he has had experience, that is, he must be older. The man does not marry young because the woman puts on too much style and he can not afford it on a small salary, hence marriage is deferred until later in life. The sexual passion is strong, as nature intends it should be, and many fall. Hence, I must conclude, that the lessening of illegitimacy and abortion can be only brought about by home training and early marriages.

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EDUCATION AS A FACTOR IN THE PREVENTION OF CRIMINAL ABORTION AND ILLEGITIMACY.*

HENRY O. MARCY, A.M., M.D., LL.D.
CAMBRIDGE, MASS.

A distinguished physician once said to me that he did not understand why there was implanted so strongly in both sexes the passionate desire for sexual relationship, while at the same time its gratification was hedged about by so many dangers and penalties.

I suppose this thought has been prominent in the minds of all wise men during the history of the race, from savagery to the present. Many-sided views have been expressed by previous speakers. Few questions pertaining to the civilization of the present are more important or have a greater influence for good or bad on the higher development of man.

EDUCATION THE NEED.

The only thing which I wish to emphasize at present is that every young man and young woman should be intelligently taught during the period of education, commencing at puberty, the meaning and possibilities of the sexual relationship. The inherent forces of Nature compel each individual to give heed to these desires and it is the duty of a wise training that a correct interpretation be made of them. It is easier to write a book on such a subject than to give definitions which are not misleading in the limit of a paper of this character.

I assume, although there are many who will not agree with me, that if the individual can be taught to accept and fully to believe in a mode of living that shall give him the longer life, the less suffering and the greater happiness, this will be the one way of living from which he will not depart.

I assume that a young man or woman just entering life, with ordinary intelligence, looks down through the vista of the coming years, actuated with the desire of "how can I make the most of this life and extract therefrom the greatest pleasure and profit?" And just here is where the education should rightly begin; and it is the duty of those who are experienced to teach the inexperienced and of those who are wise to teach the ignorant.

"No new thought," you say, and you may justly quote the instruction of one of the wisest of the old writers, who said, "Train up a child in the way he should go and when he is old he will not depart from it."

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It is just here that the new temperance movement, teaching the children from a scientific standpoint the effect of alcohol, is having its largest fruitage in the cause of temperance. We stop a moment to pay a tribute to the memory of the late Mrs. Hunt, of Boston, the apostle of this new training.

Much more difficult, much more delicate, is the teaching of the young regarding their new-born sexual instincts. A boy, even much less a girl, at all daintily reared, will not go to father or mother for explanation or instruction. They seek it much more naturally from their own mates and comrades, who are equally ignorant and their speculations are very like to lead them into an experimental school, feeling their way blindly and often in the greatest danger after knowledge. Too often they repeat the experience of the boy, dancing with pain, as he blew his fingers, stating that he thought only red iron burned, not black. In the full tide of the young vigor, the fires of life under the forced draught of licentiousness may cut short a pleasure that was intended to last into the later years of life, and what is more pitiable than such a man introduced into the matrimonial relationship, who can be neither husband nor father; or such a woman, who can be neither wife nor mother?

EARLY NEW ENGLAND HOME LIFE.

I grant that it is extremely unfortunate that there are so many forces actually brought to bear against early marriages, especially in the class better fitted for parental duty. Of course, it is better to educate one child aright than to worry over a brood of half-trained children; but I look hopefully into the future when the sound sense of the generations to come will not be warped by the false ideas dominating the present, which unduly influence to a false life of society, pretense and fashion.

The earlier New England home life of the young mated couple setting up their lares and penates around a simple hearthstone of independent ownership and working out life's problems together is far more ideal. A young man fully conscious of his ability can become convinced, however, that a life of sobriety and continence is best, although he may consider it in the extreme self-denying, and then he is willing to defer present pleasure for the future satisfaction which he knows will bring him compound interest. This is much more true of the young woman thus intelligently taught. Each should know the laws of reproduction and especially the dangers of their violation. Virtuously trained, a young man and a young woman may resist the temptation of yielding to sexual desire, but how much more carefully will they train themselves to resist the temptation of desire when they know more of its penalties. No young man ever deliberately contracted venereal disease. I suppose the large majority of the sufferers will confess to a truthful ignorance coupled with the statement that "had I known I would not be thus punished." Farther than this, when he is made aware that thereby he imperils his manhood, perchance forfeiting all right to legitimate marriage, he will stand appalled at the temerity of his ignorant gratification.

Who are the women leading this public life, alluring young men to danger? Are they not themselves the victims of previous ignorant infatuation and misguidance? Some one's daughter, trained by a fond mother in the trusting faith that such a fate can not belong to her own. If for no other reason than this there can be but little argument in favor of prostitution, no matter how regulated, since the ultimate fate of these women is unspeakably sad. It is said that crime goes not single handed, and debauchery of this sort is ever accompanied by the detrimental effects of intoxicating drink, and the last estate of these devotees is worse than the first. But we can not dwell on this side of the picture longer.

THE AFFIANCED.

The affianced reason, "Are we not each to the other at onement?" And following the hour of ignorant gratification comes impregnation with its attendant disgrace. Hence the abortionist, who holds out the promise of the easy and safe way of condoning the error. Infectious processes generally follow and, if life itself is saved, health may never be restored and the reproductive organs themselves may be ruined. All these bitter experiences are learned from the infraction of laws which would be respected in self-interest, if understood.

THE NEWLY MARRIED.

I fear a greater injury to the community comes from the ignorance of the newly married, where both husband and wife may consciously agree that the delayed menstruation can not be serious and, therefore, that legitimate means to "bring round" to regulation ways, can not be harmful. I think this type of wrong in the community is greater in the so-called higher classes of society. The bride of a few months is not willing to forego her social privileges and "to settle down," and why should she not institute means, in common practice among her social mates, that may relieve her from the dreaded duties? In their semi-ignorance they seek council together and confer over their supposed misfortunes.

I recall an illustrative incident. My reasoning with the young wife was fruitless. "If I did not care for her there were others whom she knew whose services would avail." Thinking a little delay might bring about a better reasoning, I gave her a placebo with very careful instructions how she should take her medicine. On her way home she met with a slight railroad accident, the jar and fright inducing a miscarriage. She showed her gratitude by sending to me one after another of her friends, I think seven in number, who insisted in having the same prescription that I had given Mrs. X., and not one of them could be convinced that, if I only would, I could easily produce a similar safe result. I leave it to others to make the emphasis on the crime of the destruction of the fetus even in its earlier stages of development.

With many this will have a proper influence, but I am sorry to feel that in the present stage of our education the average woman will reason that delayed menstruation when maternity is not desired is a stage of her existence and that the product of early impregnation is of so little importance that it will not be seriously estimated as a criminal offence.

CONCLUDING REMARKS.

I am aware that I have scarcely touched on some of the phases of this problem, a subject on which one does not willingly write, since he is easily open to misconstruction. This illustrative anecdote may be apropos: A Parisian gentleman was very anxious to instruct his son in the dangers of venereal disease, to which he was assured he had been exposed, and he took him to his friend, the distinguished Dr. Ricord, who, on request, showed him through the hospital where there were many suffering from these disgusting ailments. At the close of the

visit the wise physician bade the young man to beware of such diseases, but was surprised by the quick reply, "M. Ricord, you have shown me such evidences of your remarkable skill and ability that I shall immediately consult you on the first evidences of suffering."

A few cardinal rules should ever be kept prominent. Instil into the minds of both sexes high ideals. Teach them that God desires that His children may enjoy pleasure and not pain, happiness and not sorrow, that virtue in all things adds to the real enjoyment of life and in the relationship of the sexes, that a virtuous man should be the complement of a noble woman, and that each should be to the other in such atonement that one life may be the full complement of the other. That the highest harmony and the greatest joy will be found in the declining years of life, when, still hand in hand, they are walking together actuated by a common purpose.

THE GUARANTEE OF SAFETY IN THE MARRIAGE CONTRACT.*

PROF. A. DUEHRSSEN.

BERLIN, GERMANY.

In the address of your chairman a sentence is contained which I should like to use as a motto for my short remarks:

Sanitary science prevents injury to another, even inadvertently.

Therefore it is the self-evident duty of a man entering into matrimony to show a medical certificate proving that he is in good physical and mental health. This demand is particularly necessary in the case of men who have indulged in sexual intercourse before marrying. But I doubt very much whether such a certificate is sufficient with regard to gonorrhea. I could mention many cases from my own practice in which men who had acquired gonorrhea five, ten or even fifteen years before, infected their wives, though they had been declared perfectly healthy by eminent specialists. And the cases of which I speak were not simply catarrhs of the uterus and the vagina, but cases of pyosalpinx and abscess of the ovaries, with consecutive inflammation of the peritoneum. These diseases had changed healthy girls, full of the joy of life, into despondent women, who, through their husbands' fault, were forever denied the blessing of children and who could be cured only by major surgical operations. In the worst cases these operations consisted in the removal of the uterus and both ovaries, so that thereby these women were deprived of their sexual character. Therefore it should be required that the physicians who have to issue certificates as to the absence of gonorrhea shall make exact and repeated examinations with all known diagnostic means before declaring the man to be free from gonorrhea.

According to my experience, chronic gonorrhea of the male, in contrast to syphilis, is still regarded by many physicians as a comparatively harmless disease. It is the merit of an American physician, Noeggerath, to have proved that chronic gonorrhea of the male is the cause of most of the inflammatory gynecologic affections.

Does a certificate protect the women from gonorrheic infection? According to my conviction, by no means! The man who for some time has presented no signs of gonorrhea may still carry about gonococci, which, in consequence of some irritation of the urethral mucosa, may come to the surface and give rise to infection.

It is, therefore, the duty of the physician to educate the general public to understand that the best guarantee of safety in the marriage contract lies in the sexual abstinence of the male, and it is the duty of every father—I myself have followed this precept—to instruct his sons concerning the physiologic processes of reproduction and the dangers of extramarital sexual intercourse. Have them reminded of the words of the Bible:

I will visit the sins of the fathers upon the children unto the third and fourth generation.

Have them reminded of the duties which they owe to their futures wives, their children and to the state, and by early matrimony enable them to carry out sexual abstinence.

Sexual abstinence is facilitated by hard study, by the various athletic sports and by abstinence from alcohol as practiced to such an extent in America.

Thus education in the parental home is the best guarantee of safety in the marriage contract.

* Read in the Section on Hygiene and Sanitary Science of the American Medical Association, at the Fifty-seventh Annual Session, June, 1906.

THE PROTECTION OF THE INNOCENT.*

WILLIAM LEE HOWARD, M.D.

BALTIMORE.

The highest aim of the physician to-day is to prevent disease. Physical diseases are being studied in the laboratories and at the bedside. Mothers are taught the hygiene of the bedroom and teachers some useful facts about the care of the teeth and eyes. The women teachers in the mixed high schools attempt to give to their disinterested scholars academic fancies regarding the physiologic action of a glass of beer, meanwhile oblivious to the adolescent's silent appeals for some true statements concerning the laws of Nature. We need a new code of ethics of the sexes. A science of sex is necessary to a proper understanding of Christian sexual ethics. We can mature a perfect ethics of the sexes amid moral innocence, but not amid physiologic ignorance. The present unfortunate and antisocial conditions have been brought about by the orthodox moralist who has been afraid of Nature's truth and who persistently ignores facts. These negative individuals have too long labored under the erroneous idea that the influence of some vague intelligence or a mythical mentor will instruct the young girl in all of Nature's laws and impress on her the consequences of disregarding these laws.

PUBERTY: ITS SIGNIFICANCE.

As puberty silently and insidiously arouses the girl to introspection, as vague and sometimes uncontrollable sexual desire forces her along a trail of autoerotic queries, she seeks in vain for truths which she scarce dares to own to herself that she was conscious of and understood. Innocent of any wrong feeling, her soft, sweet and womanly emotions are ignored by her mother, her teacher and her married sisters, and either through harmful floundering in her unaided development or more often through the baneful tales of a sexual neurotic she learns that every living man and beast is the product of sexual gratification. This knowledge coming to her by muddy and contaminated channels can not but defile her thoughts and she goes out into the world without realizing the great truth that sexual gratification is not sensual gratification.

* Read in the Section on Hygiene and Sanitary Science of the American Medical Association, at the Fifty-seventh Annual Session, June, 1906.

At this age of tremendous significance to the young girl she is left alone to wonder, and is denied her birthright to know herself. If she is in the hands of that antisocial being, the psychically unsexed woman, she receives no sympathy, no womanly instruction or advice, and either breaks away from such unnatural environment and succumbs to a powerful impulse which she has not been taught to control and to guard as woman's greatest blessing, or becomes one of those many unfortunate cases, a psychic and sexual neuropath.

The truth is denied the young girl at the time her mind and body are opening their wonderful blossoms to receive it. At this period in her life she has misty longings that fill her heart to overflowing and, like the young Greek girls who were wont to worship Aphrodite, she wishes to offer herself as a gift at the holy place so that the goddess might be glorified in her and herself be a participant in the highest happiness of woman, the joys of motherhood. But the bestial seems to have won a victory over the divine in parents, teachers and obscure philosophers, for the holy ideas of Venus Urania have been supplanted by those of the lupanar of Venus Vulgivaga. The majority of people, and many physicians, do not properly estimate the great factor underlying the basis of physical and moral health—sexual activity. They do not understand the necessity of early guidance of this force into mental and physical channels, nor the fact that explosions of sexual energy are protean in their effects. To successfully protect the adolescent from the fearful results of early sexual indulgence, instruction in sex physiology and statements of practical facts must go along gradually with the development of mental and physical growth. This necessary instruction can only be given by those who are virilely or womanly cognizant of sex differentiation; of the pitfalls and whirlpools into which the slightest sexual variant may be drawn, and of the sensual ideation teasing the plastic thoughts of the adolescent.[1] It is too late to teach the present parents, but we can get their assent to a proper teaching of those who later on will be parents, especially those of potential motherhood. What we purpose, and the reasons thereof, must be outlined for the mothers and fathers of to-day to understand and to accept. Give the public to understand that we desire to throw around the girl such an armor of practical knowledge of herself and of Nature's laws that she will be invulnerable to the wiles, lies and seductive promises of a certain class of men and their advertisements, and the public will readily assent to our proposal, for, as Huxley said, "An intelligent assent is based on knowledge."

Whether we are followers of Lamark or Weismann, or simply laymen of acquisitive experience, we recognize the influence that past habits and social conditions in sexual matters have had on the psychosexual activities of young women. It is due to the fact that such subjects have been left to those totally unfit by experience and training to understand life as it is; individuals who are either blind to the truth or else wrapped in a fog of morbid and hypocritical cowardice, that many an ignorant but good girl had lost her virtue through curiosity. This is not a subject for the ethical philosopher or the individual of monastic habit and negative sexuality to teach. It is for the live, virile physician to go into the details of the lives of individuals, for it is he who will detect the causes of social diseases that have their genesis in secret.

1. Howard, W. Lee: "Feminization of the High School," The Arena, June, 1905.

THE PRECHRISTIAN AND CHRISTIAN ERAS CONTRASTED.

Sexual activities were honored and revered in all civilization up to the time of the Christian era. Laws were made governing the acts of men and rules were laid down for the safety of good women.[2] Teaching hygiene of the sexual organs as well as condemning and explaining secret vices, vices which are now ignored by mothers and teachers, yet practiced to-day, were part of a mother's duties, while in the schools widows were appointed to the chair of sex science.

With Christianity came shame of God's greatest gift and wonder, the organs of procreation. The dark, chilling atmosphere that enshrouded the church produced fearful abuses of Nature's desire to bloom and blossom; abuses which brought about flagellation, scourging of the body, hysterical illusions of an erotic form and the autoeroticism of the monks and nuns. The history of these polymorphic explosions of divergent sexual activities forms a horrible and sad story of perverted sexual morality, and is only hinted at here in order to get a glimpse of the conditions that have produced this inherited false modesty and hypocrisy in parents of to-day which is the cause of ill health in thousands of girls and the reason so many are morally blind and sexually secretive.

THE PHYSICIAN'S RESPONSIBILITY.

Why are parents to blame in this most important matter to our social state? Why is it that a mother allows her 15-year-old daughter, whose whole attitude, eyes, lips, breath, demonstrates the smoldering sexual volcano, to attend the theater with young acquaintances, often physical virgins but mental prostitutes, and listen, yes, become absorbed in erotic suggestions? Who is to blame if in a few months this child goes wrong, becomes a social outcast? The medical men, the men who should, and whose oath demands that they should protect the ill, the innocent, the weak.

It is the men of our profession who should take aside the father and mother and point out the oncoming of the great psychic and sexual upheaval. We should take the daughters and so carefully guard their thoughts and ideas that there will be no morbid curiosity aroused, no shock, no wonder. The young girl who has been accustomed to view the old family physician in the light of a kindly moralist and adviser in mumps and chicken pox, fears to question him; especially she who is conscious of a passion that produces an hysterical state which is difficult to conceal. *Heu! quam difficile est crimen non prodere vultu* (Ovid). Such men when they see their duty and don't do it are moral cowards. If they do not recognize all the little psychical and physical signs of adolescent eroticism they have missed their calling. A man who sees anything harmful, unsavory, or peculiar in stating the truth to young people of what we know of Nature's laws, belongs to the period of monastic eroticism. How can we protect a girl from falling into sexual errors, from actual physical sufferings or dangerous tampering with a natural desire, if knowledge of her sex laws are left for her to define and her psychic explosions to relieve?

There are masses of facts concerning this question of the protection of the innocent that can never find a place in mere statistical tables. These facts are well known to those who have been brought into confidential relations with young girls and women; who have been able to follow them from luxurious homes to the dark, oppro-

2. Howard, W. Lee: "Laws and Teachings of the Ancient Hindus in the Art of Love," Medicine, April, 1906.

bious dens of shame; who have carried them in the ambulance or private carriage from grewsome lupanar holes to the hospital wards, and watched the innocent school girl gradually merging into a state of psychasthenia because the mother denied the very existence of that passion by which she was able to give birth to the daughter. Those of us who have had this experience should speak to the public with authority and not in a tampering manner or a "leave it to God" attitude. Some opinions of social conditions are not so much compromised by ignorance as by lack of moral courage, or, what is baser, a commercial spirit; the fear of losing the patronage of the church or of smug patients. It is so easy to acquiesce complacently in the mother's idea that the minister or priest can inhibit by prayer and admonition the greatest physiologic function given by God to man—sexual activity.

I have interviewed girls and women in cities throughout the world; I have had confidential relations with all classes of outcasts and demi-outcasts; I am cognizant of many innocent downfalls of school girls and feel confident that many of all these classes could have been saved from a detestable life of shame and disease had they been instructed early in sexual hygiene as well as in physiologic laws. I make a special point of sexual hygiene because many girls first become awakened to sensuous feelings through the itching and irritation produced by the smegma and other by-products of physiologic economy, thus insidiously falling into the habit of masturbation. Then follows rapidly erotic ideation, morbid curiosity, secretiveness, salacious reading and all the other psychic disturbances known to the student of morbid mental conditions. If such unfortunate girls had been taught the necessity of keeping the sexual organs clean, as they had been taught to care for their ears and teeth, many of them would never have had an abnormal or unnatural imagination.

It is beyond cavil that there are born prostitutes as well as born criminals; that there are also women who develop along the line of least resistance and remain demi-virgins all their lives. These latter are of the mentally and physically neurasthenic type; they have not the psychic balance to resist morbid erotic fancies nor the impelling physical force which breaks out in imperative sexual desires. It is not my intention to speak here of either of these two classes. One, the born prostitute, we have always with us and probably always will have with us. She belongs to all men to treat with pity and kindness. She is a part of our social fabric, but she is on the ragged border, she must be kept there, and those who wish to tread on this border do so at their own risk. But it is our duty as medical men to show to both sexes the poison, the misery, the suffering and the mephitic sting of rottenness that lies on this outer fringe of the social fabric. The second class, the erotopath, belongs to the physician to treat as psychically diseased persons, very often as mentally diseased.

NOTES FROM THE AUTHOR'S EXPERIENCE.

The girl I wish to interest you in is the innocent girl of normal physiologic attributes who is always in danger of becoming a social outcast through ignorance of those laws which it is our duty to see that she thoroughly understands before it is too late. One or two examples of many, Oh! how many! that have come under my personal observation will give you a clear idea of what I mean.

I had a lawyer under my care. His wife was childless and apparently, psychically unsexed. This wife had had charge of an orphaned niece for many years. At this time the girl was fifteen years of age and fully developed as regards womanly attributes. I had several confidential talks with the lawyer about this girl going constantly to matinees and warned him of the danger. He thoroughly understood that she needed mental quietude, proper instruction in sexual matters and a real woman's care. He tried to get his wife to understand the conditions, but she would not listen. This female would not admit the existence of sexual passion in a good woman, and said that M. was an innocent child and that she, his wife, would never, no never, listen to the nasty advice of Dr. Howard.

Well, it is only another chapter in my book of human documents. The wife became very angry with her husband and myself. One evening about a month after Mrs. B. had refused to listen to me, I entered her house and found the young girl alone and in a state of sexual excitement. I was not surprised. Instead of such care and instruction as would have enabled her to suppress and guard this passion, everything possible had been allowed to feed this physiologic and psychic upheaval. She had never had a word on the subject, and helpless and alone the fires of uncontrolled activities were allowed to smolder and burst into a sad sexual holocaust. I at once sent for a good nurse who was not burdened with ignorance or false modesty; neither was she psychically unsexed nor ashamed of her sex. Both doctor and nurse had to leave the house without seeing the girl. What followed is only a variation of these sad cases. The pent-up and directed sexual fires were fanned by all-night vigil of erotic fancies. In the morning they broke out in irresistible impulses and at eleven o'clock she went to the office of a young man she knew and solicited his services. So down she fell, and at nineteen is a by-word for all that is immoral. She has repeatedly told me that if she had been properly watched, advised and had had plainly explained to her what her teasing nature and increasing nervousness indicated; if she had had medical advice, had been taught the necessity of keeping the sexual organs free from irritating substances, she would to-day have been a pure girl.

All the women, teachers and guardians, also many mothers, who have under their charge young girls, should be carefully selected. Those who will not shake off prurient prudery and hypocrisy and teach plain facts, should be put aside and their charges given over to womenly women and those endowed with normal physiologic instincts whose sympathy and truthfulness will redound to the future purity of the girl.

I know of three girls, not one of whom was over seventeen years of age—one was fifteen—attending a normal school, who were pregnant the same year; their first years at this mixed school. They were from the country and had been sent away from home without the slightest advice concerning sexual matters. One of these girls did try to ask her mother questions but was turned away with the ordinary platitudes of the moral coward. The farcical side of this hypocricy and deception is seen when we remember that these girls were to be turned out as teachers of the young.

These cases are a few examples of the ruin of young girls through the criminal neglect of parents and physicians. A sad instance of this antisocial condition I have reported elsewhere,[3] while in my work dealing with abnormal sexual activities, I try to show the baneful results of false sexual education.[4]

3. Howard, W. Lee: "Masturbation in Young Girls," Buffalo Med. Jour., Dec., 1903.
4. Howard, W. Lee: "The Perverts," G. W. Dillingham Co., New York.

PROTECTION BY EDUCATION.

The question of protecting the innocent is neither medical nor legal in the strict meaning of those terms, but educational. There is only one remedy for all acts whose basal cause is ignorance, and that is education. In this matter the objects for attack are the mothers and teachers; the subjects for education are the young girls.

The separation of the sexes in schools is necessary to give proper instruction in sex knowledge. In fact the sexes during the adolescent period should always be separated if we wish to get the best educational and moral results. In sex instruction, even with the sexes separated, we must have group instruction, according to the mental and physiologic development of the individual girl. This instruction must be given by those who realize the tremendous significance of the sexual awakening. The men and women who are to impart sexual knowledge should be those of strong sex characteristics. The female of masculine tendencies or the effeminate male do harm; they are unfit to associate with adolescents.

It has been the general attitude of the pulpit moralists and superficial observers to say that no girl was ignorant of what she was doing; that she should have had "moral courage;" that no decent minded girl would think of vile actions, etc., etc., *ad nauseam*. This class of library moralists confound innocence with ignorance and are blind to the tremendous sexual force in many natures. With the false ideas and ignorance of Nature's ways, as well as the parental silence and denials displayed daily in homes and churches, it is not strange that so many girls give way to an unguided impulse, but strange that more do not fall, for remember, it is not innocence that saves a girl, but ignorance that ruins her.

There are thousands of girls in the upper and middle classes who, while not innocent, are ignorant of the primal laws of Nature. Many have tried to get the information their adolescent longings crave; many have striven to seek out the mystery after having been snubbed or denied by their own mothers. If the opportune moment arrives, and it generally does, the girl falls into the salacious seductiveness of some vicious minded woman, the seeds of false sexual education are sown and their spumy growth forever crowds out the tender tie between mother and daughter, and, as the mother dissembled, so will the daughter lie.

As I have suggested, the truth as we know it, should be instilled into the mind of every girl. I should commence when they are very young by teaching them the beautiful laws and arrangements of Nature in the reproduction of plants and flowers, emphasizing the sex differentiation. Gradually, as she mentally develops, she should be led along Nature's path up to the reproduction of birds, then animals, explaining their mating habits and the reasons therefor. When Nature was giving the girl the first early signs of her own reproductive powers she should have the whole truth plainly told her. Now the girl will see the beauty, the wonderful, the ethical side of a normal sexual feeling, and sensual sensation will be suppressed. She will seek for no mysteries to dream about, have no morbid curiosity to lead her to experiment, but be in the normal condition of a healthy woman who knows and will be master of natural passions until her time of mating comes.

Another form of instruction I find advisable in many cases is, to tell the truth, about the advertisements seen in some daily papers, as well as the facts concerning the secret circulars sent surreptitiously to girls.[5] We have, as a profession, protested against the publication of these criminal advertisements. Laws regarding such filthy stuff seem ineffective and only when the business end of the paper is guided by a clean, moral minded man, have these advertisements been suppressed and forever excluded. It has been the habit to blame the editors for allowing such advertisements to appear, but from an extensive experience in editorial rooms, I can safely say that almost every editor, if he could have his way, would never allow such filth to befoul his columns. We can drive many of these advertisers out of business, however, by exposing their wares. Many girls have told me that they thought they could avoid exposure by taking the pills, etc., that were advertised. They discover the truth when it is too late. These girls, some of them on the verge of reckless despair, many committing suicide, would have remained virtuous had they been emphatically told that these advertisements are fakes and the drugs either very dangerous or useless.

We must look on this whole question as it is, not as we would have it, or, as some fatuously believe, non-existent, and it is only sliding from the question to say: "No girl who has a tendency to go wrong will be stopped by knowing the facts about these lying advertisements." Boldly and frankly I say there are girls whose natures are such that only the knowledge of what follows unchaste habits and the fear of pregnancy, keeps them pure. These are the young girls from fourteen to eighteen; after this period there is something of the personal responsibility in the woman.

Only a few days ago I became cognizant of a fourteen-year-old girl who was pregnant. Her mother is a mental wreck from the shock, which is a severe punishment for her neglect and cowardice. She allowed the child to grow up without a word of instruction concerning her sexual organs or sexual life. Now in her mania she piteously cries that it never entered her head that F. "was anything but a little innocent child." If she had said an ignorant child with a criminal mother, she would have been nearer the truth.

On questioning this child I found she had been allowed to go to "harmless dances," where she met older girls of vicious tendencies. They wore watches and other jewels which aroused invidious thoughts. It is the old story of the vanity of adornment plus the ignorance of the child. The little girl asked her mother for a watch and she was denied. She was promised a watch by one of the male dancers. She had some slight, indefinite knowledge, information picked up sporadically and left-handed, concerning the danger of becoming pregnant, but these hazy fears were all calmed by pointing out to her the advertisements of "female regulators." She told me with tears and agonizing appeals that had she not been told that these "regulators" would keep her from getting into trouble she never would have been tempted by a gold watch.

Probably in no other way can we so rapidly drive out these nefarious fakers as by frankly and constantly teaching the public concerning them.

5. Howard, W. Lee: "Masturbation Among Women," Medicine, March, 1906.

Lung Gymnastics.—L. Sexton, New Orleans, in discussing the treatment of pulmonary tuberculosis, stated that if lung gymnastics were practiced by deep breathing for a limited space of time, three or four times daily, the lung tissue would be developed as is the right arm of the blacksmith.

PROTECTION OF THE INNOCENT.*

EDWARD L. KEYES, Jr., M.D., Ph.D.
NEW YORK CITY.

What is the conclusion to be drawn from the previous papers on this subject? It is, I think, twofold. First, as regards those who assume the rôle of protectors of innocence: let them beware of their ignorance, for, unhappily, they are not all-wise. Even supposing that those who speak here to-day and who have contemplated gravely the duty of our profession to womankind are, in some degree, competent to advise and to guard the innocent, we can not serve for all; our authority must be delegated. And strange and various will, doubtless, be the doctrines taught by those whose chief qualification as protectors of innocence is their boundless enthusiasm and a superficial knowledge of what wiser men have spoken. Witness current school instruction on the effects of alcohol.

Hence our mistrust of the old-fashioned patriarchal methods of protecting innocence by enshrouding it in ignorance. Our forefathers so confused the two terms that to them knowledge in woman often meant wickedness and ignorance.

Our second conclusion to-day is manifestly the converse of this. We find it possible to fortify woman's innocence chiefly, if not solely, by her own wisdom. We wish to protect her by teaching her, not by preaching to her. We would have her innocence so protected by her own experience that she should herself distinguish the true guide from the false. We would prove true in every-day life those words of Horace which, though spoken some twenty centuries ago, are even yet the expression of an ideal:

> **Virtue, dear friend, needs no defense,**
> **The surest guard is innocence.**

But in thus delivering weapons of offense and defense into the hands of our sisters, shall we not mar the bloom of their innocence? Will not some grime of worldly wisdom cling to their skirts? In some instances surely it will. It were old-worldish to cry with Butler:

> **The souls of women are so small**
> **That some believe they've none at all.**

Yet it were blind to overlook those weak sisters (and brothers, too, for that matter) whose minds can not contain the knowledge and experience necessary for their own salvation. They will always be with us; but a contemplation of them has too long impeded the progress of morality. It is more profitable to consider, as we are doing, the far more fearful spectacle of the prostitution, the abortion, the illegitimacy and the disease that spring so largely from ignorance. Above all, let us contemplate that sublime and pervading innocence which so often shines from the countenance of our philanthropic men and women. They consort daily with crime, ignorance and filth, and yet come forth resplendent in a new and fortified innocence, an ideal innocence, compounded of wisdom and experience and native virtue. Such is innocence self-protected: such our aspiration.

Thus, with due recognition of our own fallibility, we set out to protect the innocence of woman by a campaign of education. No one but the physician could inaugurate this campaign; for no one but the physician is in possession of the facts on which it is founded. Outside the medical profession we are like to fall between the impassioned and bigoted moralist on the one hand and the materialistic cynic on the other. Except ourselves only educators and sociologists are prepared to view the subject sanely. All others must be instructed. Hence we medical men are instituting this campaign, and, fortified by our incredible success in the campaign against tuberculosis, we hope to succeed in conquering or at least in mitigating this deeper-rooted evil.

Yet I confess the problem dismays me. The inherent lust of man and frailty of woman are not to be overcome by any confabulation of learned and aged scientists. We all recognize that. Yet those of you who listened to the graphic depiction of venereal disease brought before this Section last year and again this year and to the discussion concerning its suppression, must realize how far we are from a practical solution of this great moral and social and medical problem. We are only beginning to grope our way amid the darkness of centuries in the hope of grasping a few fundamental truths which may lead to a brighter day. As though the natural difficulties of the situation were not themselves sufficiently trying, we are still further impeded by the contempt of the Pharisee and the scorn of the cynic. But the fight for sexual purity and against venereal disease is becoming organized. The various purity leagues and prophylactic societies are gaining the adherence of the best citizens of many cities.

And now the question arises, Who is to be the actual educator? Physician or layman? Thus far the burden has been assumed almost entirely by the physician, and we all must pay tribute to those few men like our chairman and Dr. Prince Morrow, who have dared for years to face ridicule and scorn, urging the cause in season and out of season until, at last, their efforts are being rewarded. The public attention is being caught and held. But can the physician go much further? He can supply material, he can arouse enthusiasm and temper it by experience; but can he, generally speaking, undertake the details of education? I am inclined to say, No. From my own experience in lecturing on these subjects, as well as from listening to the remarks of other medical men, I should say that we prove ourselves none too well equipped for the actual educational campaign, for the practical didactic application of our theories. An example of the ideal man for such work among men is the Y. M. C. A. physical director. He is half medical man, half teacher, and is vitally interested in the problems of sex and venereal disease. Moreover, I have found these men, in my part of the world, much more practical in their ideas of how this education should be handled than most physicians are. They look at it from the pedagogic rather than from the medical viewpoint and are already equipped with a large fund of practical educational experience. To such men I think we should confide the actual working out of these educational problems among men; and to similar women teachers among women if the mother is not available, as is so often the case.

Our efforts should be reserved for the direction of the medical and physiologic basis of the enterprise.

Yet there is one side of the subject which we and we alone can attack. That is, not the side of the defenseless and innocent, but the side of the infected offender. We can and we must insist that every patient who comes to us with a venereal disease shall understand that he is infectious, how he is infectious, how long he is likely to remain infectious, and what results may ensue if he

* Read in the Section on Hygiene and Sanitary Science of the American Medical Association, at the Fifty-seventh Annual Session, June, 1906.

transmits his infection to some one else. Herein lies the manifest and prime duty of every physician to his patient and to society. You have heard in previous papers the practical facts and how these venereal patients should be talked to. Do this, and do it earnestly. Whether your personal creed is for or against general sexual education, for or against reglementation, for or against personal prophylaxis, on this at least we can all agree: that no venereal patient shall pass out of our doors without a full knowledge of the infectiousness of his disease. If you will talk to the men, as well as to the women, on a high moral plane and bid them aspire to a possible, though difficult, continence, so much the better. If you will join in the organized crusade against vice and venereal disease, better still. If you will instruct your patients and their families in their duties as parents and as citizens, best of all. But these things can be asked of you only as a contribution to a noble cause, while a full warning to your venereal patients is demanded of you by your conscience and by your profession. Indeed, so simple and fundamental is this proposition that I fear you will regard it as an anti-climax to what has gone before. Yet, were every medical practitioner to issue only this warning, more would thereby be accomplished toward protecting the innocent than by any other single effort. And this is a call, not of philanthrophy, but of stern professional duty.

THE DISCUSSION ON THE SYMPOSIUM ON THE DUTY OF THE PROFESSION TO WOMANKIND COMMENCES ON PAGE 1947.

MALARIAL HEMOGLOBINURIA.*

WALTER V. BREM, M.D.
Physician at Ancon Hospital.
ANCON, CANAL ZONE.

INTRODUCTION.

The fourteen cases of hemoglobinuria here reported occurred in the "white fever wards" of Ancon Hospital between the dates of Nov. 10, 1905, and May 10, 1906. During this time 1,107 cases of malarial fever were treated.

Blood examinations for malarial plasmodia were made with dried smears stained by Hasting's modification of the Nocht-Romanowsky stain, except the examination in Case1, when the fresh preparation was used. Sahli's hemometer was the instrument used for hemoglobin estimations, except in Case 7, where Dare's hemoglobinometer was substituted. Tests for hemoglobin in the urine were made by the sodium chlorid and glacial acetic acid method. The quantity of albumin in the urine was estimated by bulk, i. e., the coagulum in boiled and acidified urine was allowed to settle for 24 hours in a test tube, the bulk of albumin and the bulk of urine were measured by rule, and the percentage of albumin was estimated. The term, blackwater, is used to describe urine when no test for hemoglobin was made; the term, hemoglobinuria, is used when the test was made.

The main points brought out by a study of the cases are: (1) The only etiologic factor discoverable was a febrile affection resembling the estivo-autumnal type of malarial fever; previous attacks of malarial fever appeared to furnish a good, but not essential ground, for the development of hemoglobinuria; previous administration of quinin did not appear to be an etiologic factor, either predisposing or exciting. (2) In every case hemoglobinuria disappeared more or less promptly following the administration of quinin by intramuscular injection, but quinin did not influence the excretion of hemoglobin after the production of hemoglobinemia during a paroxysm. (3) The sequence of events seems to be corpuscular destruction, hemoglobinemia, hemoglobinuria. (4) Anemia was usually exceedingly rapid in progress and recovery was very rapid; the symptoms and signs of the disease may be very mild; a peculiar febrile disturbance sometimes followed hemoglobinuria and was uninfluenced by quinin. (5) Albuminuria, sometimes of an extraordinary degree, was a constant accompaniment of hemoglobinuria and ran a course more or less parallel with it. (6) Certain criteria are advanced for the probable diagnosis of hemoglobinuria when the positive diagnosis, by the test for hemoglobin, is not made. (7) The relative value for intramuscular injection of quinin bimuriate with urea and quinin bihydrochlorid is discussed and also the size and frequency of the dose.

CASE 1.—Nov. 10, 1905, No. 6070, Spaniard, aged 23, residence Panama; on the Isthmus of Panama 15 months. Admitted 4 p. m.

Past History.—One previous attack of malarial fever.

Present Illness.—Onset, evening of November 9, chill, fever, headache, vomiting.

Physical Examination.—Scleræ slightly jaundiced. Edge of spleen palpable at costal margin.

Course of Illness.—The patient had a chill shortly after admission. He was given 20 grains of quinin sulphate by mouth, during the afternoon. The following morning, November 11, the blood examination was negative for malarial plasmodia. The urine had the appearance of blackwater and albumin was 20 per cent. The patient was given 30 grains of quinin sulphate, by mouth, during the morning, and at 4 p. m. quinin bimuriate with urea was ordered to be given by intramuscular injection, 15 grains every 4 hours, for 6 doses. The third day, November 12, 15 grains every 6 hours were injected, until 3 additional doses were given, making in all 135 grains within 40 hours. Quinin sulphate, by mouth, 5 grains every 4 hours, was then ordered. Blackwater persisted until the afternoon of November 13. Vomiting was frequent. The scleræ became more jaundiced, but the skin of the trunk was only slightly icteroid; the jaundice cleared promptly. The temperature was recorded only twice daily—6 a. m. and 4 p. m.—and the curve has no character. The highest temperature noted was 101.5. There were slight rises of temperature on November 15, 17 and 19. The patient at no time appeared very ill and his recovery was good. There was considerable irritation from the intramuscular injections of quinin, and the thighs became swollen, red, hot, painful and very tender. The inflammation subsided, however, without serious result. Recovery was good.

CASE 2.—Nov. 18, 1905, No. 7110, American, aged 36, residence Savannas; on the Isthmus of Panama 4 years. Admitted 5:30 p. m.

Past History.—Malarial fever three or four times; last attack 5 months ago, ill 15 days. No blackwater previously. Alcoholic history, intoxicated often.

Present Illness.—Onset, November 16, fever, vomiting, loss of appetite, constipation, no chills, sweats, headache or backache. Urination free, but patient has noticed that his urine has been black.

Physical Examination.—Large, well-nourished man, does not look ill. Respiration quiet. Scleræ slightly jaundiced; mucous membranes of good color; pulse 92, regular in force and rhythm, medium size, tension good. Edge of spleen palpable below costal margin.

Blood: Stained smears show a moderate infection with estivo-autumnal plasmodia; the larger-sized rings are present; no small rings, no sexual forms.

* Read before the first meeting of the Medical Society of the Isthmian Canal Zone, May 5, 1906.

Course of Illness.—The patient felt quite well until the day after admission, when his temperature began to rise at 12 noon. The ascent was slow and the fastigium was reached after 20 hours; the descent required an equal time. The patient vomited several times and suffered from mild headache and a feeling of feverishness. He did not appear very ill and there was no further fever. He became somewhat anemic. Recovery was good.

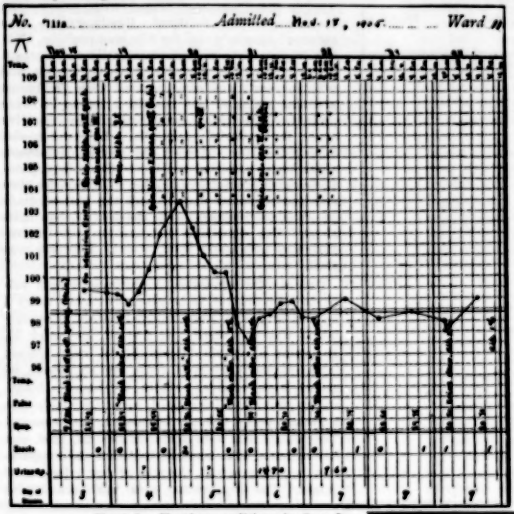


Chart 1.—Showing conditions in Case 2.

Urine: On the morning after admission, November 19, blackwater was discovered and was present for four days, hemoglobin being excreted for two days after the paroxysm ended. Albumin remained constantly about 20 per cent.

Quinin.—On admission 5 grains of sulphate were ordered by mouth every 4 hours. At 4 p. m., November 19, the bimuriate with urea was ordered intramuscularly, 10 grains every 4 hours, for 4 doses. At 10 a. m., November 20, 15 grains were ordered intramuscularly every 6 hours, for 4 doses. In all, 100 grains were injected intramuscularly within 36 hours. At the sites of several injections, small superficial areas of necrosis appeared. These were greenish in color and painless. There was no suppuration.

Case 3.—Dec. 18, 1905, No. 8408, American, aged 28, residence Corozal; on Isthmus of Panama 7½ months. Admitted 5:30 p. m.

Past History.—Malarial fever three times previously; last attack 6 weeks before admission; ill 5 days. Alcoholic history unimportant.

Present Illness.—Onset December 16, chill about 2 p. m., followed by fever, which has been continuous since. Another chill December 17, 4 p. m. There has been headache, vomiting, constipation and abdominal pain. Patient took 30 or 40 grains of quinin during the 2 days preceding admission to the hospital.

Physical Examination.—Slight man, fairly well nourished. He appears to have a mild attack of malarial fever.

Blood: Stained smear negative for malarial plasmodia.

Course of Illness.—The patient's temperature reached normal on the morning after admission and remained so until the following morning, December 20. His temperature then rose to 101; at 11 p. m. he had a severe chill. On the morning of December 21, he had become intensely jaundiced, was vomiting frequently, the vomitus being dark green, almost black, and his urine was Burgundy red in color and yielded numerous hemin crystals by the glacial acetic acid and sodium chlorid test for hemoglobin. There was a heavy brown sediment, which, microscopically, showed a brown amorphous detritus, numerous brown granular casts, no red blood corpuscles. Albumin was 40 per cent. On examination, respiration was difficult, the patient had a sense of suffocation; the conjunctivæ were injected, the sclerotics lemon yellow; tongue was coated, mucous membranes were pale; the lungs were clear on percussion and auscultation; the pulse was slow, regular, large, tension good; heart was not enlarged; there was a systolic bruit at apex, heard over the body of the heart, but not transmitted to axilla; spleen was palpable below costal margin. The blood examination was negative again for plasmodia. Another chill occurred during the morning of December 21. Blackwater had disappeared by the afternoon of the next day, December 22, and albumin was only 10 per cent. Respiration, however, was more difficult. The pulse was rapid and small, there was another paroxysm of fever, and vomiting continued to be frequent. The condition continued until December 24, when the patient died, apparently of respiratory failure. There had been no recurrence of blackwater and jaundice had almost disappeared; involuntary defecation occurred before death. The fever reached its highest point, 103.4, shortly before death; it was estivo-autumnal irregularly remittent and intermittent in character. No necropsy was permitted, but a rib was exposed postmortem and smears were made from the bone marrow. Examination of these was negative for malarial plasmodia and pigment.

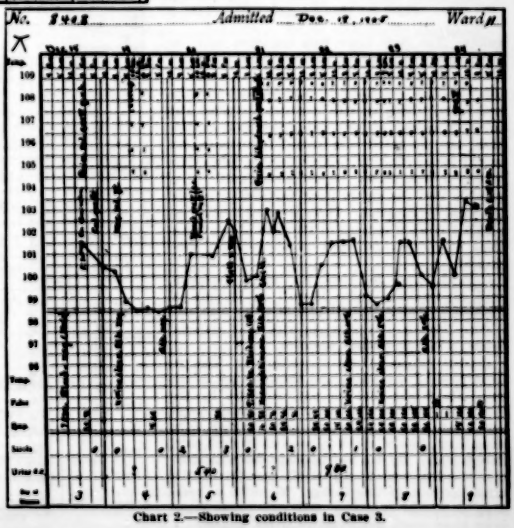


Chart 2.—Showing conditions in Case 3.

Quinin.—On admission, 5 grains of quinin sulphate were ordered every 4 hours. These doses were continued through

December 19 and 20, two additional doses of 5 grains each being given each day, that is, 40 grains daily, for 2 days, at least, were received before the onset of hemoglobinuria. At 8 a. m., December 21, 15 grains of quinin bihydrochlorid were ordered to be given intramuscularly every 4 hours. Blackwater disappeared promptly during the administration of these doses and did not recur. However, the posthemoglobinuric fever persisted and was uninfluenced by the large quantities of

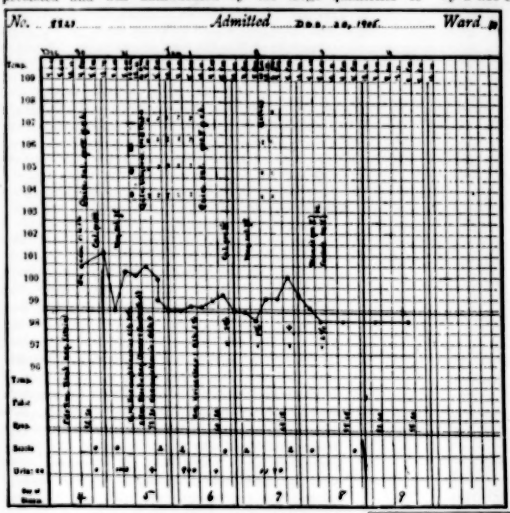


Chart 3.—Showing conditions in Case 4.

quinin. The large doses were continued until the morning of December 24, when 5 grains, intramuscularly, were ordered every 4 hours. I desire to call attention especially to this posthemoglobinuric fever, which, as will be shown, occurred also in other cases. It was not understood at this time, and the quinin was pushed to an unwonted extent in an effort to prevent further paroxysms which, it was feared, might prove fatal. It is possible that the quinin itself hastened or caused the fatal termination. There were two small superficial areas of necrosis at the sites of two injections of quinin; no signs of suppuration were present.

Case 4.—Dec. 30, 1905, No. 8823, American, aged 40, residence Pedro Miguel; on Isthmus of Panama 2 months. Admitted 5:30 p. m.

Past History.—No previous attack of malarial fever. Alcoholic history negative.

Present Illness.—Onset December 27. The patient received a wetting and then worked in the sun. He thinks that he was overcome by the heat. He became very weak, had severe headache, and pain all over the body. Fever daily since onset, loss of appetite, some abdominal pain. Bowels open. He has had frequent desire to urinate, but has voided only small quantities. His urine has been getting darker. No chills or vomiting, no special sweating. Quinin has been taken daily since onset, but quantity is not known.

Physical Examination.—Very large, robust man, does not look ill; skin suffused, scleræ slightly jaundiced, tongue coated, mucous membranes good color; pulse, 92, regular, large, tension good. Spleen not palpable.

Blood: Stained smear negative for malarial plasmodia.

Course of Illness.—The patient did not feel ill at any time while in the hospital, excepting some pain and tenderness over the hypogastric region on the morning after admission. He had had retention of urine since admission, the hypogastric region was full and dulness reached half way to the umbilicus; tympany was present in the iliac fossæ. Urination was induced by a hot enema, and about 1,000 c.c. of greenish-red urine was voided, the foam was tinged with yellow, and there was a heavy sediment. Hemin crystals were obtained, Gmelin's test for bile was positive, albumin 30 per cent., and microscopically there was a brown amorphous granular detritus, hyaline and granular casts and casts covered with the brown granular material; no red-blood corpuscles were present. The blood examination was negative again for malarial plasmodia. Blackwater disappeared on the following day and did not recur, albuminuria persisted mildly for three days, jaundice cleared promptly; after the fifth day the temperature remained normal, and the patient made an excellent recovery with the loss of but little blood. The quotidian temperature was estivo-autumnal irregularly intermittent. Recovery was good.

Quinin.—On admission, 5 grains of quinin sulphate were ordered to be given by mouth every 4 hours; 30 grains were received before hemoglobinuria was discovered. At 2 p. m., December 31, 10 grains of quinin bihydrochlorid were ordered intramuscularly every 4 fours for six doses; 60 grains were received within 20 hours. Blackwater promptly disappeared, and quinin sulphate, 5 grains, every 4 hours by mouth, was resumed The patient was seen again on Feb. 26, 1906, and it was found that necrosis, infection and suppuration had occurred at the site of one injection of quinin. The suppurating area had been incised

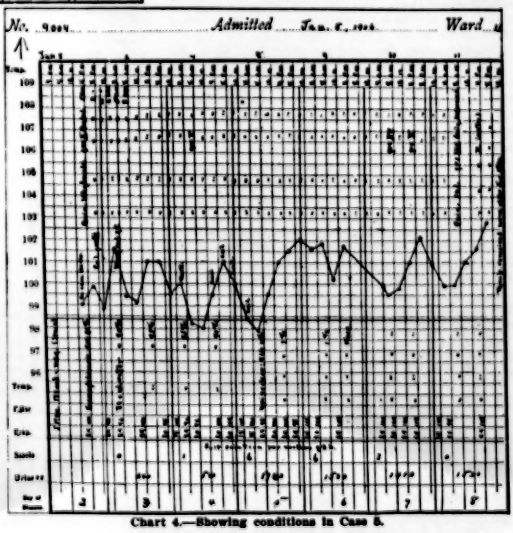


Chart 4.—Showing conditions in Case 5.

and about 300 c.c. of pus evacuated. The cavity was clean and healing was progressing well. The patient stated that when the sixth injection was given, a lump appeared at the site, and it required some time to subside. It is probable that the injec-

tion was given subcutaneously, instead of intramuscularly, and necrosis followed[1].

CASE 5.—Jan. 5, 1906, No. 9004, Spaniard, aged 29, residence Ancon; on Isthmus of Panama 16 months. Admitted 3:30 p. m.

Past History.—Three or four mild attacks of malarial fever during the past two years, none severe enough to confine patient to bed, and none accompanied by blackwater. Quinin was taken during these attacks. Alcoholic history negative.

Present Illness.—Onset 6 days before admission, but patient did not stop work until January 4, the day before admission. On that date he had a chill about 8 p. m., fever, profuse sweating, vomiting, great weakness, some abdominal pain. Very little pain in head, back and limbs. Bowels regular. Bloody urine was noticed on the night of January 4. No quinin had been taken for some time previous to onset, but 27 grains daily had been taken for past 6 days.

Physical Examination.—Sparely nourished man, looks very ill. Tongue coated, mucous membrane very pale, scleræ extremely jaundiced. Respiration quiet. Pulse, 100 to the minute. Heart not enlarged, sounds clear. Lungs clear on percussion and auscultation. Abdomen very tender on palpation. Spleen enlarged and tender, reaches to umbilicus and to the crest of the ilium.

Blood: Stained smear negative for malarial plasmodia.

Urine: Hemoglobinuria; color, dark red; heavy sediment; albumin, 90 per cent.; hemin crystals readily obtained.

Course of Illness.—Blackwater continued through January 6 and 7, the maximum albumin being 95 per cent. Mild albuminuria persisted after the disappearance of blackwater. For three days the patient was critically ill. He was restless, irrational, vomiting almost incessantly, and had involuntary passage of feces and urine. Jaundice of scleræ and skin was intense, and anemia was marked. The hemoglobin had fallen to 24 per cent. on January 15, but rose rapidly afterward to 55 per cent. on January 26. The hemoglobinuric fever was relatively low and was estivo-autumnal irregularly remittent and intermittent in character. The maximum was 101.5. The post-hemoglobinuric fever rose to a higher degree and was irregularly remittent; it persisted 10 days and was unaffected by quinin. Recovery was good.

Quinin.—The patient received 10 grains of quinin bihydrochlorid intramuscularly every 3 hours for 6 doses, then every 4 hours for 5 doses, in all 110 grains within 36 hours. He then received 5 grains intramuscularly every 4 hours for 4 days, two injections of 15 grains being substituted on January 10. On January 11, 30 grains of quinin sulphate by mouth were ordered to be given daily, in broken doses, before 12 noon. There resulted from the injections great pain, tenderness and swelling of the thighs, which later became necrotic and suppurated. The patient was seen on February 20. The skin over a wide area of the right thigh and over a smaller area of the left was freely movable, being separated from the deep tissues. Former incisions were connected and the necrotic tissue, including portions of the fascia lata, was excised. On February 23, patient's condition was much improved and the wound was clean and healing well. It was thought that skin grafting would be necessary later. The solution that caused the trouble was the same as that which produced necrosis in the preceding case.

CASE 6.—Jan. 18, 1906, No. 9372, American, aged 31; residence Empire; on Isthmus of Panama 13 months. Admitted 11:40 a. m.

Past History.—One previous attack of malarial fever. Alcoholic history negative.

Present Illness.—Malaise for about one week. On January 17 the patient had fever, followed by sweating; vomiting was frequent; there was severe headache, backache and extreme weakness. No chills. Bowels loose. Urine dark red in color since noon of January 17. Quinin about 20 grains daily during past 2 days.

Physical Examination.—Slight man, blond, fairly well-nourished, appears to be very ill. Scleræ and skin of body jaundiced; mucous membranes very pale, tongue coated. Respiration quiet, 16 to the minute. Pulse 92, regular, tension good. Heart not enlarged, sounds clear. Edge of spleen palpable below costal margin.

Blood: Stained smear negative for plasmodia, no pigment in leucocytes; examination by Ross's method negative for plasmodia and pigment.

Course of Illness.—Though no urine was voided on day of admission, hemoglobinuria was suspected and treatment instituted. Vomiting was frequent and jaundice became more intense by the following day. Urine was voided during the night and examination showed hemoglobinuria, albumin 90 per cent., test for hemoglobin positive. Microscopically there were scattered leucocytes and epithelial cells, a brown amorphous granular detritus, and many casts covered with the brown material, but no red blood corpuscles. The afternoon urine showed 60 per cent. albumin. The urine was clear on the morning of January 20, with only a trace of albumin, which persisted for two days. The patient's condition grew better rapidly after the disappearance of blackwater, though the posthemoglobinuric fever persisted for 14 days. Temperature was observed only twice daily. The maximum temperature recorded during hemoglobinuria was 100.2, the maximum posthemoglobinuria record was 101.5. Fever appeared to be remittent. The hemoglobin estimation on January 29 was 55 per cent. Recovery good.

Quinin.—Quinin bimuriate with urea, 10 grains intramuscularly at 4 and 8 p. m., was ordered on the day of admission; 10 grains intramuscularly at 8 and 10 a. m. were given daily for 4 days afterward, and then quinin sulphate, 30 grains by mouth, was ordered to be given daily in 10-grain doses at 6, 8 and 10 a. m. No untoward result followed the injections.

CASE 7.—Feb. 3, 1906, No. 9925, Italian, aged 47, residence Empire; on Isthmus of Panama 22 years. Admitted 4:30 p. m.

Past History.—Malarial fever many times.

Present Illness.—During two weeks, patient has had pain over splenic area and under sternum. On February 1, 2 days before admission, fever began and has been continuous since. No chill or vomiting and but little sweating. Bowels constipated. Patient states that he has taken no medicine.

Physical Examination.—Thin, sallow man, poorly nourished; conjunctivæ pale, tongue clean. Heart and lungs negative. Liver is palpable at costal margin. Spleen reaches to mid line and to the crest of ilium.

Blood: Stained smear negative for plasmodia.

Course of Illness.—Until the fourth day in hospital, patient appeared to have an ordinary attack of estivo-autumnal malarial fever. His urine was clear and free from albumin on the second day. On the fourth day fever rose to 103 and was accompanied by vomiting and headache. Urine voided before the paroxysm had the appearance of blackwater; albumin 15 per cent. On the morning of the fifth day the temperature had fallen to 100.4, vomiting continued, and the scleræ and skin of body were jaundiced. The urine contained about 12 per cent. of albumin, was dark-red with a small sediment; microscopically there were present granular casts, an amorphous detritus, no red-blood corpuscles. Hemin crystals were obtained. The urine was clear and albumin negative on the seventh day, February 9, and there was no further blackwater, but albuminuria reappeared on February 10, and ranged between a trace and 4 per cent. until February 23, when it disappeared permanently. The fever persisted intermittently for 15 days; there was a chill on February 18 and the temperature rose to 104. This fever did not appear to be the type of fever that I have called posthemoglobinuric, illustrated by cases 3, 5, 6 and 11. It was due probably to the persistence of malarial parasites in the blood. The temperature was observed only twice daily. The patient became much emaciated, and hemoglobin fell to 30 per cent. (Dare's hemoglobinometer) on February 17. Recovery.

Quinin.—Quinin sulphate, 15 grains, by mouth, was given on February 3, the afternoon of admission; 30 grains by mouth, before 12, noon, on February 4, 5 and 6. Blackwater appeared during the afternoon of February 6, and 10 grains of quinin bimuriate with urea were given intramuscular at 8 p. m. On February 7 and 8 at 8 and 10 a. m., intramuscular injections of

1. The injections of quinin were given in all cases with ordinary hypodermic syringes. Owing to the short needles, the injections could not be made deep into the muscles, and the solution often escaped into the subcutaneous tissue, where it usually caused trouble. This special solution proved defective for other reasons, and will be discussed later.

quinin bimuriate and urea and quinin bihydrochlorid were given alternately, each dose 10 grains. Quinin sulphate, 30 grains by mouth, was ordered on February 9, and was continued daily until February 15. On February 15, 10 grains of quinin bimuriate with urea, and 10 grains of quinin bihydrochlorid were given by intramuscular injection, one injection at 8 a. m. and one at 10 a. m. The orders were the same for seven days, when quinin sulphate, 20 grains daily by mouth was ordered, and continued until patient was discharged. There was slight irritation from the injections of quinin bimuriate with urea; practically none from quinin bihydrochlorid.

Case 8.[2]—Feb. 12, 1906, No. 10,163, Greek, aged 42, residence La Boca; on Isthmus of Panama 3 years. Admitted 2:30 p. m.

Past History.—Malarial fever many times.

Present Illness.—Onset February 8, with chill, fever, sweat, headache, vomiting, pains in legs. Similar paroxysms have recurred daily. Bowels constipated. Patient has taken small doses of quinin.

Physical Examination.—Heart and lungs negative, liver enlarged and tender, spleen very large and tender.

Blood: Stained smears, made at 2:30 p. m. and 4 p. m. were negative for plasmodia.

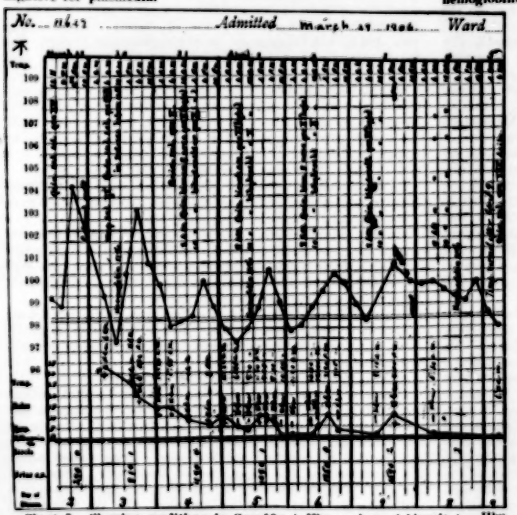


Chart 5.—Showing conditions in Case 10; + Hbu. = hemoglobinuria.; — Hbu. = no hemoglobinuria. April 16, hemoglobin (Sahli's) 48 per cent.

Urine: Catheterized specimen, blackwater, albumin 55 per cent.

Course of Illness.—The patient had a chill on admission; temperature 104.2. After admission, vomiting was frequent; jaundice was intense. The temperature gradually fell and reached normal on the fourth day. It ranged between normal and 96 F. for the four days following, death occurring on the morning of February 19. Temperature observations were made only twice daily. Catheterization was necessary during the first three days. The minimum output of urine for 24 hours was 30 c.c., the maximum 450 c.c. Blackwater disappeared on February 15 and albumin decreased to 2 per cent. and ranged between 2 and 10 per cent. until death.

Quinin.—Quinin bimuriate and urea, 10 grains at 8 and 10 a. m., was given daily by intramuscular injection.

Necropsy.—The anatomic diagnosis was (1) edema of lungs and brain; (2) dilatation of right and left heart; (3) brown atrophy of heart; (4) acute gastritis; (5) acute splenic hyperplasia; (6) chronic parenchymatous nephritis with acute exacerbation. Cause of death, nephritis. No malarial plasmodia or pigment was found in the viscera. (Darling.)

Case 9.—Feb. 21, 1906, No. 10,474, American, aged 38, residence Empire; on Isthmus of Panama 7 weeks, in Cuba 7 years. Admitted 11:45 a. m.

Past History.—Malarial fever once on Isthmus, many times in Cuba.

Present Illness.—Onset February 19, with fever. Chill, fever, sweat, headache, backache, nausea, on February 20 and 21. Bowels open. The patient has been in the habit of taking 9 grains of quinin every 7 days; he has taken 10 grains daily for past 2 days.

Physical Examination.—Conjunctivæ pale, scleræ jaundiced, spleen about 8 cm. below costal margin in mammillary line.

Blood: Stained smear negative for plasmodia.

Course of Illness.—Temperature on day of admission was 104.8. On the morning after admission it was 100.6, but following a chill it rose to 102.5. The maximum daily temperature decreased gradually and reached normal on the ninth day, March 1. The character of the fever was not that of the "post-hemoglobinuric" fever. Temperature observations were made twice daily. Blackwater was discovered on the morning after admission, and persisted two days. Albumin was 20 per cent. on the morning after admission, February 22; 30 per cent., February 23; 3 per cent., February 24; negative afterward. The quantity of urine voided was 1,500 c.c. during the first 24 hours, and afterward ranged between 1,200 c.c. and 2,820 c.c. Vomiting and jaundice were marked during the period of blackwater. Anemia was rapid—hemoglobin 40 per cent. four days after temperature became normal. Recovery good.

Quinin.—The sulphate, 15 grains by mouth, was given on day of admission. Quinin bimuriate with urea, 10 grains intramuscularly, at 8 and 10 a. m. was administered for 4 days following. Quinin sulphate, 30 grains daily by mouth, was given afterward. No untoward results followed the intramuscular injections.

Case 10.—March 29, 1906, No. 11,627, Spanish-American, aged 36, residence Las Cascadas; on Isthmus of Panama 2 years. Admitted 12 noon.

Past History.—He has lived all his life, except 4 years, in the tropics. Malarial fever four times during the past 7 years; last attack in January, 1906. He has never had blackwater before. Alcoholic history negative.

Present Illness.—Onset the night of March 27, with fever and vomiting. Fever was high on March 28, and vomiting excessive. No chills, headache or backache. Bowels open. Black urine was noticed on March 28; urine cleared on the morning of March 29, but became black that evening. The patient has taken from 4 to 8 grains of quinin daily, prophylactically, since March 1. The dose was not increased before he entered the hospital.

Physical Examination.—Patient is a spare man, looks ill, conjunctivæ not injected, scleræ somewhat jaundiced and skin of body slightly icteroid. Tongue thickly coated, mucous membranes pale. Lungs clear on percussion and auscultation. Pulse slow, regular in force and rhythm, tension good. Heart not enlarged, sounds clear. Spleen reaches 10 cm. below costal margin in mammillary line.

Blood: Stained smear showed young plasmodia, thought to be tertian.

Course of Illness.—There was a chill at 4 p. m. on day of admission, temperature rose to 104.5 at 6:30 p. m. Vomiting was frequent, and jaundice increased. There were no further chills, but the temperature curve was of double tertian intermittent type for four days. On April 2, the mild paroxysm resembled more closely the estivo-autumnal character, and on April 3 a rise of temperature occurred which continued 34 hours. During the paroxysm of March 30, vomiting was frequent again, and the patient seemed very ill. On March 31 he had some dyspnea

2. Cases 8 and 9 were not seen by me.

and mild hiccough. Otherwise, he remained in good condition throughout the remainder of his illness. Jaundice had cleared practically by April 4. Mild afternoon fever occurred on April 8 and 9. Temperature otherwise normal after April 4. The blood examination on March 30 was negative for plasmodia, no pigment in leucocytes. Recovery good.

Hemoglobin: March 30, 51 per cent.; April 1, 33 per cent.; April 4, 31 per cent.; April 16, 41 per cent.; April 22, 48 per cent.

Urine: Hemoglobinuria was discovered on the morning after admission, and persisted mildly through the next day. It was then intermittent for 9 days more, recurring with the mild elevations of temperature. Each specimen of urine was examined separately and tests made for hemoglobin in the supernatant urine and in the sediment when the supernatant urine failed to yield hemin crystals. A curve of albuminuria has been constructed on the chart, and by it may be seen that hemoglobinuria ran a course that varied with the albuminuria. The smallest quantity of albumin with which a positive test for hemoglobin in the supernatant urine was associated was 14 per cent.; the sediment yielded hemin crystals with albumin 6 per cent. It was found that at times in a clear straw-colored urine there was a small reddish-brown sediment which yielded abundant hemin crystals, practically all the hemoglobin being in the sediment. This is in striking contrast to cases reported later in which the urine contained no sediment but, nevertheless, yielded hemin crystals. Repeated microscopic examinations were like former ones reported. No red blood corpuscles were found.

Quinin.—The treatment is recorded on the chart. Two intramuscular injections were given daily, each 10 grains, for 6 days; the bimuriate and urea was alternated with the bihydrochlorid. The former produced some irritation; the latter practically none.

Case 11.—April 19, 1900, No. 12,271, American, aged 27, residence Panama; on the Isthmus of Panama 8 months. Admitted 1 p. m.

Past History.—The patient has lived for 5 years in tropi-

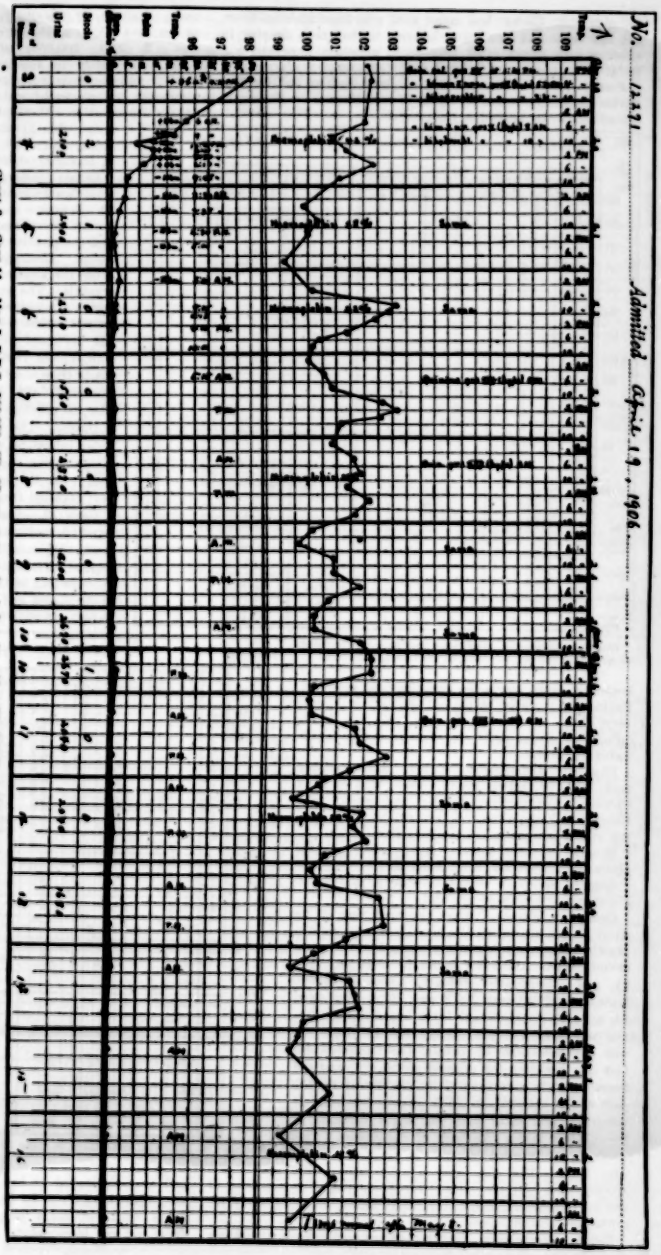


Chart 6.—Case 11. May 5, R.B.C., 900,000; Hb. 17 per cent.; color index, 94. May 22, R.B.C., 3,000,000; Hb. 60 per cent.; color index 1.

eal countries. He has had many mild attacks of malarial fever, but has never had blackwater before. He had been sleeping in a house with eleven other men, seven of whom have had malarial fever, but none blackwater.

Present Illness.—The patient had been feeling bad for two weeks, he became worse on April 17 and 18, and on the morning of April 19 he had a chill about 9 a. m. This was followed by fever, headache, sweating and vomiting. During the morning he noticed that his urine was very dark. Bowels constipated. He had taken quinin, 18 grains daily, for 2 days before blackwater appeared.

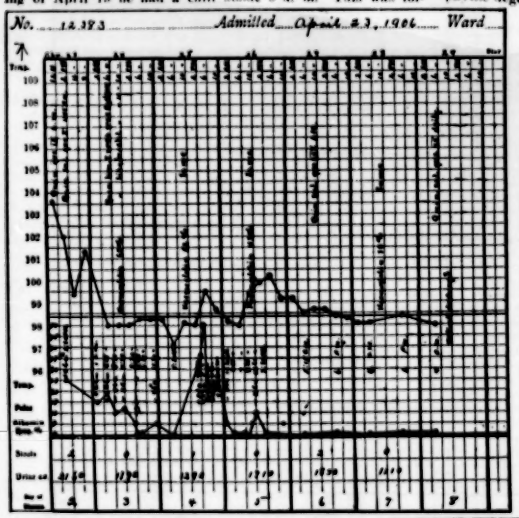


Chart 7.—Showing conditions in Case 12; + Hbu. = hemoglobinuria; — Hbu. = no hemoglobinuria.

Physical Examination.—Large, well-nourished man, looks ill; scleræ lemon yellow, skin of body icteroid. Conjunctivæ, tongue and gums pale. Heart and lungs clear. Spleen reaches 5 cm. below costal margin in mammillary line.

Blood: Stained smear negative for malarial plasmodia. Negative, also, April 20.

Urine: Specimen voided at 4:30 p. m.; hemoglobinuria, albumin 50 per cent.

Course of Illness.—Patient appeared very ill on April 19 and 20, during the hemoglobinuric period; jaundice deepened, vomiting was frequent and anemia rapid. Jaundice began to clear on April 21 and disappeared rapidly. Hemoglobinuric fever ranged between 100.8 and 102.4. On April 22, a quotidian remittent fever began and continued regularly and obstinately for 18 days. It was not influenced by quinin, the Gruber-Widal test was negative for typhoid on May 6, and the fever was not accompanied by discomfort on the part of the patient—no chills, sweats, headache or vomiting, and there was but slight decrease in hemoglobin during this part of the illness. This is the most marked instance of posthemoglobinuric fever. The case was a very severe one, accompanied by profound and rapid anemia. The character of the hemoglobinuric fever was estivo-autumnal, irregularly remittent. Recovery good.

Blood: Hemoglobin, April 20, 42 per cent.; April 21, 28 per cent.; April 22, 22 per cent.; April 24, 24 per cent.; April 28, 24 per cent.; May 2, 19 per cent.; May 5, hemoglobin 17 per cent.; R. B. C. 900,000; color index, .94; fresh specimen, slight irregularity in size and shape of red corpuscles, no marked poikilocytosis, color good; stained smear, negative for plasmodia, no nucleated red corpuscles, some polychromatophyllic degeneration. May 9, hemoglobin 25 per cent. May 11, hemoglobin 31 per cent.; R. B. C., 1,512,000; color index, 1.02. May 22, hemoglobin, 60 per cent.; R. B. C., 3,000,000; color index, 1.

Urine: Hemoglobinuria was present on admission, April 19, and persisted until 10 p. m., April 20. Separate specimens were examined and an albumin curve has been constructed on the chart, and the positive and negative tests for hemoglobin noted. Hemoglobin persisted in the sediment after the supernatant urine failed to yield hemin crystals. The smallest quantity of albumin with which a positive test for hemoglobin in the supernatant urine was associated was 23 per cent.; the sediment yielded hemin crystals with albumin, 12 per cent. Microscopic examinations were made from time to time. No red corpuscles were observed; the findings were similar otherwise, also, to previous reports.

Quinin.—The treatment is charted. Intramuscular injections were given for 7 days. Slight irritation was caused by the bimuriate with urea; less with the bihydrochlorid. No great discomfort resulted from either preparation.

Case 12.—April 23, 1906, No. 12,383, American, aged 29, residence Empire; on the Isthmus of Panama, 19½ months. Admitted 12 noon.

Past History.—Patient has lived in Cuba 9 months and in the Philippine Islands 5 years. In both places and also in Florida he had malarial fever. During his first year on the Isthmus he had no malaria but he has since had numerous light attacks, no severe ones. He never before had blackwater. He lives in a house with two other men, one of whom has had malarial fever but not blackwater. Alcoholic history moderate.

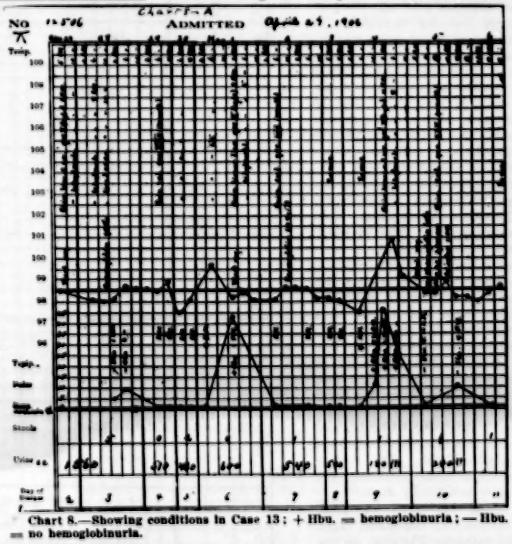


Chart 8.—Showing conditions in Case 13; + Hbu. = hemoglobinuria; — Hbu. = no hemoglobinuria.

Present Illness.—Onset April 21, with fever and headache. About 8 a. m. on April 22, the patient had a chill, fever, sweat, headache, vomiting. No backache. About 7 p. m. on same day another similar paroxysm occurred, and another at 6:30 a. m. on April 23. At about 2 p. m. on April 22, the patient noticed that his urine was dark, "about the color of claret wine," and it has continued so since then. Bowels have been loose. For 3 or 4 months he has taken 9 grains of quinin a day, three times a week. He had taken none, however, for 8 days before present illness. On April 21, he took 12 grains; on April 22, 27 grains; on morning of April 23, 9 grains.

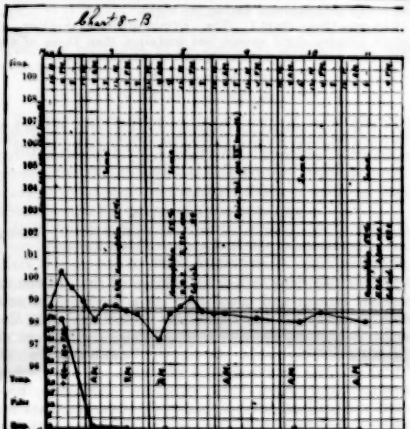
Physical Examination.—Large, well-nourished man; conjunctivæ pale. Scleræ lemon yellow, tongue coated. Heart and lungs clear. Spleen 5 cm. below costal margin in mammillary line. Skin of body slightly icteroid.

Blood: Stained smear negative for plasmodia.

Urine: 2:30 p. m. Hemoglobinuria, albumin 25 per cent.

Course of Illness.—The patient at no time appeared very ill, and after the day of admission he felt quite comfortable. Fever was estivo-autumnal, irregularly intermittent in character. There was no posthemoglobinuric fever. Icterus was deeper on the second day, cleared somewhat on the third, but deepened again after the recurrence of hemoglobinuria, then disappeared rapidly. There was no vomiting while in the hospital; slight headache on April 25. Recovery good.

Urine: Hemoglobinuria disappeared on the morning after admission, and recurred with marked albuminuria on the next day, when it was associated with only a mild rise of temperature, maximum 99.5. The urinary output was fairly large. An albumin curve has been constructed and positive and negative tests for



hemoglobin indicated as in the previous charts. In this case, the test for hemoglobin was positive when there was no sediment; the smallest quantity of albumin with which a positive test was associated was 15 per cent. Repeated microscopic examinations were as in previous cases; no red corpuscles were observed.

Blood: Hemoglobin, May 24, a. m., 67 per cent.; May 25, 52 per cent.; May 26, 43 per cent.; May 28, 38 per cent.

Quinin.—Treatment is charted. The intramuscular injection of quinin bihydrochlorid caused slight irritation; none was caused by quinin bimuriate with urea.

CASE 13.—April 27, 1906, No. 12,506, American, aged 22, residence Cornet; on Isthmus 27 months. Admitted 5 p. m.

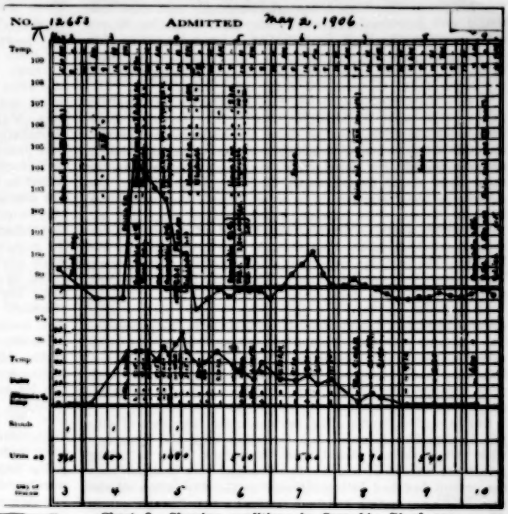


Chart 9.—Showing conditions in Case 14.—Blood neg. = no plasmodia; + Hbu. = hemoglobinuria; — Hbu. = no hemoglobinuria; + Blw. = blackwater; — Blw. = no blackwater.

Past History.—Patient had lived 3 years in Mexico. He has had three well-marked attacks of malarial fever and many mild attacks. No previous blackwater. He lives in the same house with eight other men, some of whom have had malarial fever, none blackwater.

Present Illness.—Onset April 26, about 1 p. m. Patient had felt perfectly well before, except that for about one week he has felt weak after voiding urine, but had had no pain. About 1 p. m. on April 26, he felt cold and afterward warm. A profuse sweat followed. He had, also, slight headache, severe backache and vomited freely. No definite chill. He noticed that his urine was dark at the onset of the paroxysm, about 1 p. m., and that it was still dark early on the morning of the next day, April 27. He voided last at 6 a. m. on April 27. The patient had taken no quinin before dark urine was noticed, and he took none until the night of April 26, at which time he had one dose of 20 grains. No more was taken before he entered the hospital.

Physical Examination.—Large, well nourished young man; scleræ slightly jaundiced, mucous membranes fairly good color, tongue coated. Heart and lungs clear. Spleen reaches 5 cm. below costal margin in mammillary line. Dulness above the pubis reaches about 3 cm., tympany in the iliac fossæ.

Blood: Stained smears negative for plasmodia.

Course of Illness.—Hemoglobinuria was suspected from the history, and intramuscular injections of quinin ordered. There was retention of urine until 1 p. m. on April 28, when 150 c.c. was voided. This urine was cloudy, yellow, and contained 5 per cent. of albumin. At 6 p. m. the patient voided 1,350 c.c. of dark brownish-red urine which contained 9 per cent. of albumin. Neither specimen gave a positive reaction for hemoglobin. Except for some pain from the retention the patient felt well, and, with the exception of slight headache with subsequent mild elevations of temperature, he was not uncomfortable, nor did he look ill during the course of his illness. The

mild elevations of temperature ocurred May 1, 4, 6 and were accompanied by paroxysms of hemoglobinuria and albuminuria. They were of short duration and can not be said to be characteristic of either variety of malaria. The maximum temperature was 100.8. No chills occurred. Recovery was good.

Blood: April 27, stained smear negative for plasmodia; April 28, hemoglobin, 75 per cent.; May 1, stained smear negative for plasmodia; May 2, hemoglobin, 60 per cent. (not confirmed and doubtless erroneous); May 5, hemoglobin, 60 per cent. (confirmed); R. B. C., 2,900,000, color index, 1.04; May 7, hemoglobin, 55 per cent.; May 8, hemoglobin, 54 per cent.; R. B. C., 2,872,000, color index .94; May 11, hemoglobin, 54 per cent.; R. B. C., 2,900,000, color index, .93+.

Urine: An albumin curve has been constructed, and positive and negative tests for hemoglobin indicated. Separate specimens were examined. No red blood corpuscles were observed, and the urine was similar otherwise to other hemoglobinuric urines reported. On May 1, urination was painful and in the urine were found twelve small black particles. Under the microscope these were seen to be bullet-shaped; they were black in mass, brown when crushed, rather friable; they did not yield hemin crystals. Darling found that they did not dissolve in nitric acid, but were changed to a green color by the reagent. The particles were about 1 mm. long by .5 mm. broad. Their nature was not determined. They were responsible probably, for the painful micturition.

In this case, on May 4, I had the only opportunity offered me of examining a hemoglobinuric urine early in the paroxysm. The specimen voided at 11:30 a. m. was pale red in color, contained no sediment, albumin was 11 per cent., and hemin crystals were readily obtained. The next specimen voided at 2:40 p. m. was the color of dark port, contained a heavy, brownish-red sediment, and albumin was 46 per cent.

Quinin.—(See chart.) The intramuscular injections of quinin bihydrochlorid caused less irritation than the bimuriate with urea;; neither caused much discomfort. The following points are worthy of note: (1) It seems very probable that the patient had had hemoglobinuria on the day before admission, before any quinin had been received. (2) Though quinin was administered continuously, the hemoglobinuric and albuminuric paroxysms occurred only when there was a synchronous elevation of temperature, and they ran parallel to the febrile paroxysms. (3) It seems certain that the quantity of quinin was not large enough to destroy the etiologic agent of hemoglobinuria, and thus to prevent repeated recurrence. (4) It is interesting that the first portion, 150 c.c. of the retained urine contained only 5 per cent. albumin and was lighter in color than the second portion, 1,350 c.c., voided 5 hours later. It seems probable that during this time, a small quantity of highly albuminous urine, possibly containing hemoglobin, was discharged into the already distended bladder. The hemoglobin could have been so diluted by the urine previously in the bladder that the sodium chlorid and glacial acetic acid test failed to detect it.

CASE 14.—May 2, 1906, No. 12,653, American, aged 25, residence Empire; on Isthmus of Panama 6 months. Admitted 2:30 p. m.

Past History.—Malarial fever three times, no blackwater. Patient lives in barracks with about thirty other men; he knows of three who have had malarial fever, none of whom have had blackwater. One who lives in the next house has had blackwater (Case 12). The patient lived two years in the Philippine Islands, returned to the United States and lived five years in Kansas before coming to the Isthmus of Panama.

Present Illness.—Onset April 30, with chill, fever, sweat, headache, backache, vomiting. Similar paroxysm occurred May 1, when his urine was dark but nothing like blackwater. Bowels regular. The patient has taken some quinin, but does not know exact quantity.

Physical Examination.—Large, well-nourished, strong-looking young man. Scleræ clear, mucous membranes good color, tongue thickly coated. Heart and lungs clear. Spleen just palpable below costal margin. Marked urticarial rash over face, body and limbs.

Blood: Stained smears negative for plasmodia.

Course of Illness.—Urine was clear on afternoon of admission and on morning of May 3, when the temperature was normal and patient in good condition. The rash had almost disappeared. At 6 p. m. a severe chill occurred and temperature rose to 104.5 at 7:30 p. m. The paroxysm was accompanied by vomiting, headache and backache, and the conjunctivæ were much injected. On May 3, the scleræ and the skin of the body were jaundiced. The temperature reached normal by 8 p. m., the curve of the paroxysm was estivo-autumnal in character. There was no posthemoglobinurie fever. Jaundice cleared rapidly. There was a slight elevation of temperature on May 6. The patient felt quite comfortable after the first paroxysm, and made a good recovery.

Urine: The urine voided at 6:20 p. m. on May 3, 20 minutes after the initial chill, was the color of port with a heavy brown sediment, albumin 50 per cent. Many hemin crystals were obtained from the supernatant urine. The microscopic examination presented the usual picture, no red corpuscles were found; other examinations were similar. It appeared that the hemoglobin liberated in the blood during the paroxysm continued to be excreted through May 4 and 5. Hemoglobinuria was absent on the morning of May 6, but was found one time afterward corresponding to the slight elevation of temperature that afternoon. Hemoglobin persisted in the sediment after the supernatant urine failed to give the reaction. The minimum quality of albumin with which a positive test for hemoglobin in the supernatant urine was associated was 32 per cent.; the sediment yielded hemin crystals with 28 per cent. albumin. In the albumin curve the spaces represent 10 per cent. instead of 5 per cent., as in former curves.

Blood: May 2, stained smear negative for malarial plasmodia; May 3, 7:30 p. m., smear negative for malarial plasmodia; hemoglobin, 95 per cent.; May 4, 10 a. m., smear negative for malarial plasmodia; hemoglobin, 95 per cent., R. B. C., 4,200,000, color index, 1.13+; May 5, a. m., hemoglobin, 86 per cent., R. B. C., 3,900,000, color index, 1.10; May 7, a. m., hemoglobin, 76 per cent.; May 9, a. m., hemoglobin, 65 per cent., R. B. C., 3,550,000, color index, .915. The fact that hemoglobin estimations were the same on the night of May 3 and morning of May 4, can be explained by the vomiting, which probably caused a concentration of blood that counterbalanced the hemoglobin excreted during the night.

Quinin.—(See chart.) The intramuscular injections of quinin bihydrochlorid caused less irritation than those of the bimuriate and urea; neither caused great discomfort.

(To be continued.)

VALUE OF SMALL QUANTITIES OF HUMAN MILK IN THE TREATMENT OF INFANTILE ATROPHY AND THE INFECTIONS OF INFANTS.*

FRANCIS P. DENNY, M. D.

Assistant in Clinical Medicine, Harvard Medical School; Visiting Physician to the Massachusetts Infant Asylum.

BROOKLINE, MASS.

Recent additions to our knowledge of the differences between human and cows' milk as a food for infants seem to show that the superiority of mothers' milk depends in part on the action of substances which are of the nature of ferments. As ferments are bodies "which are themselves unaffected by the changes which they produce" and which "can work on indefinitely, provided the products of their action do not accumulate too much,"[1] it follows that the benefits of human milk, in so far as they are dependent on the action of ferments, will not be proportional to the amount that is given, but effects may be expected from relatively small amounts.

It is the purpose of this paper:

1. To discuss recent investigations in regard to human milk, and to show that artificial feeding fails in just those conditions in which the action of ferments is

* Read in the Section on Diseases of Children of the American Medical Association, at the Fifty-seventh Annual Session, June, 1906.

1. Schaefer: Text-book of Physiology, 1898, vol. i, p. 317.

thought to play an important part, namely, in infantile atrophy and in bacterial infections.

2. To report my own results in the use of small amounts of human milk for therapeutic purposes in these conditions.

3. To suggest means of obtaining small amounts of breast milk.

4. To discuss the use of breast milk in infant hospitals, where this subject is of the greatest practical importance.

LIMITATIONS OF ARTIFICIAL FEEDING.

As a result of the work of the past twenty years in the modification of cows' milk for infant feeding, it is now possible to give an infant an artificial food which, as far as experiments in the test-tube show, is nearly, if not quite, as digestible as human milk. Mortality records show that infants seldom die on account of their inability to digest a properly modified cows' milk. They die on an exclusive artificial diet because, *a*, they have disturbances of assimilation of which infantile atrophy is an extreme type; and *b*, they can not resist bacterial infections. These are the limitations of artificial feeding, and it is along these lines that advances must be made to reduce infant mortality still further.

At first sight, it seems as if the power of breast milk to aid the assimilation of food and to increase the resistance of the infant to infections, were two functions wholly different from each other. It is only necessary, however, to remind one of recent theories in regard to immunity, especially those of Ehrlich, to realize how close is the relation between the digestion and assimilation of food on the one hand, and the effect of toxins, the production of antibodies, and the destruction of bacteria within the body, on the other. It is therefore to be expected that if substances which aid assimilation can pass from mother to child through the milk, those which increase the resistance of an infant to infection can also be transmitted.

HUMAN MILK IN INFANTILE ATROPHY.

We know very little of the etiology of infantile atrophy, or of the mode of action of human milk in the cure and prevention of that condition. There is, however, a growing belief among those who have made a special study of the subject that human milk is of value in these cases through the action of ferments.

In a recent article Wentworth[2] reviews the literature, gives the results of his own metabolism experiments, and offers the suggestion "that human milk contains special ferments that stimulate the activity of the digestive glands."

At the Thirteenth International Medical Congress, Paris, 1900, Escherich[3] advanced the theory that infantile atrophy was a disturbance of intermediary metabolism and was caused by a deficiency of those ferments of the "internal secretions," which regulate and control the nutrition and growth of the tissues (*Stoffwechselfermente*), and which are the products of the so-called ductless glands. He believed that ferment-like bodies of the internal secretions are taken out of the blood by the mammary gland, that they are absorbed with the food by the infant, and so pass into its body fluids, where, as in the mother, they aid metabolism and make good the deficiency of these ferments in the infant.

Escherich offered these ideas only as a hypothesis which needed to be proved. For support of this view, he points to the results obtained in mixed feeding, and in the use of very small amounts of breast milk, when the effects are not at all proportional to the amount given.

Marfan[4] and Concetti[5] have advanced theories in regard to infantile atrophy which are very similar to that of Escherich. Escherich's hypothesis has stimulated the investigation of milk along biologic lines and a number of ferments have been found in human milk, which probably have their origin in the maternal blood stream. Moro[6] says it is doubtful whether these ferments which have been demonstrated have any significance in the nutrition of the infant, but they show that ferment-like substances are excreted from the maternal blood in the milk, and the inference is justifiable that other ferments, those that concern metabolism, but which can not as yet be demonstrated, will also be excreted in the same way.

RESISTANCE TO INFECTIONS OF BREAST-FED INFANTS.

The artificially fed infant is more susceptible to every form of infection than the breast-fed infant. The infections of the gastrointestinal tract are the most frequent, because digestive disturbances make these organs a *locus minoris resistantiæ* and because the infectious agents often gain access in the food.

The resistance of breast-fed infants to infections probably depends on the marked bactericidal power of their blood as compared with that of infants artificially fed. In this connection, the investigations of Moro[7] in regard to the bactericidal power of infants' blood are most instructive. Using the plate method, he found that the average of a large number of tests made under exactly similar conditions showed that:

	Per cent. of bacteria.
Maternal blood (placental) killed	58.9
Blood of older children killed	46.3
Blood of artificially fed infants killed	33.4
Blood of breast-fed infants killed	77

The bactericidal power of the infant's blood at birth corresponds very closely with the placental blood. Following the breast feeding there is an increase, so that it is considerably greater than that of the mother's blood, while on an artificial diet there is a rapid falling off.

Tests of the bactericidal power of the blood of the same infant while being nursed and then after being weaned were also instructive. The tests in this case showed:

	Per cent. of bacteria.
Mother's blood (placental) killed	50
Infant's blood, after being nursed for two weeks, killed	72.9
Same infant's blood, two weeks after being weaned, killed	40.7

It might be supposed that the greater bactericidal power of the blood of the breast-fed infant was merely an expression of its better health and more flourishing condition. Moro found, however, that even in weak and delicate breast-fed babies, those that were not doing well, the blood showed greater bactericidal power than in the most healthy and flourishing bottle babies.

It is not possible to discuss here the various theories in regard to bacterial immunity. It can only be stated that it is generally accepted that the destruction of bacteria within the body depends on the action of certain substances, the *alexins*, or the *complement* of Ehrlich. These substances are destroyed by a temperature of 55 C. and are almost certainly of the nature of ferments. These alexins can not be demonstrated in the milk, and

2. THE JOURNAL A. M. A., vol. xlv, 1905, pp. 579 and 771.
3. Wien. klin. Wochschr., vol. xiii, 1900, p. 1083.
4. Presse med., vol. ix, 1901, p. 13.
5. Arch. de Médec. des enf., vol. v, 1902, p. 129.
6. Jahr. f. Kinderhlk., vol. lvi, 1902, p. 391.
7. Wien. klin. Wochschr., vol. xiv, 1901, p. 1073.

milk itself has practically no bactericidal power. Moro reasoned, however, that inasmuch as the bactericidal power of the infant's blood increased after birth if it was nursed, so that it was even greater than that of the mother, the alexins must come over in the milk and that they were probably there combined with the casein molecule in such a way that their presence could not be demonstrated.

In a different way Wasserman[8] explains the greater bactericidal power of the breast-fed infant's blood. The soluble albumin of human milk can pass unchanged from the intestinal canal into the circulation of an infant, while the albumin of cows' milk, being the albumin of a different species of animal, can not so pass, but has to be transformed by the action of ferments in the intestinal wall. Wasserman believes that the ferments which transform the foreign albumin in the wall of the intestines are indentical with those ferments which destroy bacteria in the body, namely, the alexins, or Ehrlich's complement. According to him, therefore, the bactericidal power of the artificially fed infant's blood is low, because these ferments are wholly employed or used up in transforming the cow albumin of the food into human albumin of the infant.

HUMAN MILK MAY CONTAIN SUBSTANCES WHICH BRING FERMENTS INTO ACTIVITY.

To support the theory that the benefits of human milk in infantile atrophy and bacterial infections depend on the action of ferments, it is not necessary to suppose that the ferments themselves are in the mother's milk. It is possible that the milk contains substances which bring these ferments into activity, for which theory the chemistry of digestion offers several analogies. Thus there is now known to be a wholly new class of ferments whose function is to activate other ferments, as *enterokinase*, which has the function of activating the trypsinogen of the pancreatic juice. There is also *secretin*, a substance not itself a ferment, secreted by the cells of the duodenum, which is absorbed and carried by the blood stream to the pancreas. The minutest quantities of secretin in the blood suffice to call forth a copious flow of pancreatic juice. It is possible that human milk contains substances in the nature of secretin which serve to call forth the secretions of those glands whose ferments are concerned in the assimilation of food and in the destruction of bacteria in the body.

From what has been written it is obvious that there is a good deal that is obscure, and, at best, pure theory in regard to the mode of action of human milk in infantile atrophy and bacterial infections. It would seem, however, that we were justified in assuming as a working hypothesis, that the benefits of breast milk in these conditions depend in part on the action of ferments, and it would therefore be rational to expect to get effects from relatively small amounts.

RESULTS IN THE USE OF SMALL AMOUNTS OF BREAST MILK IN INFANTILE ATROPHY AND IN INFECTIONS.

My own experience in the use of breast milk has been chiefly at the Massachusetts Infant Asylum, where for some years it has been the custom to have a few wet nurses. The nurses have their own babies with them, which they nurse alternately with the sick ones. As there are usually not enough wet nurses to be found, only the most sickly babies are nursed, and of these the great majority are either atrophic cases or infants suffering from some infection. As a rule, the sick babies are given three nursings and three or four bottles in twenty-four hours, occasionally only two nursings.

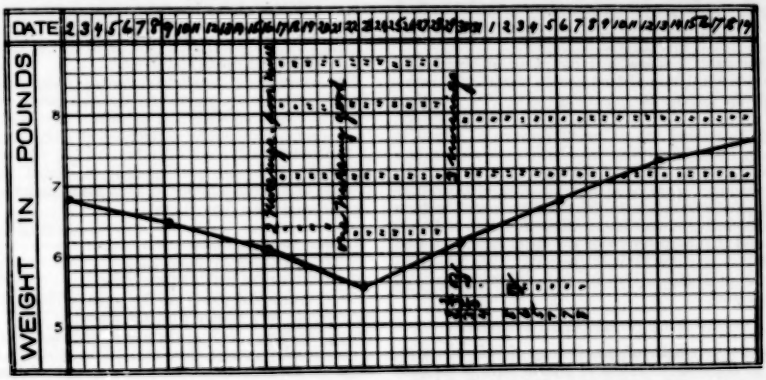


Fig. 1.—Weight chart of Case 1.

It has been my experience, as it must have been of every one who has made use of mixed feedings in this way, that often the sick infants show almost immediate improvement when put on the alternate breast feedings. It is exceptional not to see improvement within a week. At first sight, such results do not seem remarkable, for one might expect to get improvement if half the infant's food is human milk. As a matter of fact, however, a sick, bottle-fed infant when first put on the breast with alternate bottle feedings gets much less than half of its food from the breast. It is probably seldom over a quarter, and more often an eighth or a tenth. Keller[9] and others have called attention to the very small amounts of milk which are taken by a bottle-fed infant when first put on the breast. He found that often only 20 to 30 gm. (one ounce or less) at a feeding were taken, perhaps only 100 to 150 gm. in twenty-four hours when wholly nursed.

8. Deutsch. med. Wochschr., vol. xxix, 1903, p. 16.

9. Jahr. f. Kinderhlk., vol. liii, 1901, p. 59.

In a few cases in which I have had the babies weighed before and after nursing, the amounts taken by the bottle baby when first put on the breast have been very small, very similar to Keller's figures, and it has also seemed that when the baby was on mixed feedings it was very much slower in learning to take a reasonable amount.

To repeat what has just been said: The atrophic infants and those suffering from some infection often show prompt improvement when put on alternate nursings, and inasmuch as they take very small amounts from the breast at first, it follows that the improvement which results has been brought about by the addition of these small amounts of human milk to the infant's food. It is true that after a time the sick infant will take more from the breast, but if improvement has begun when only the small quantity was obtained, it will usually continue even if the amount of breast milk is not increased, and often it can be slowly reduced.

These in general are the results of the use of small amounts of breast milk for therapeutic purposes. The three following cases will serve to illustrate what has been the experience with a large number of cases of the same kind.

Case 1.—Atrophic type. H. F., male, 14 weeks, admitted to Massachusetts Infant Asylum, Sept. 29, 1905; had never been very vigorous or strong. Previously he had had some digestive disturbances, but none recently. There was no vomiting, and the stools were normal. The infant, however, had been losing weight. Physical examination at entrance negative except for emaciation. During the first three weeks at the Asylum the infant did not gain on the usual mixtures of modified milk, although the digestion appeared to be all right (Fig. 1).

October 16 to 21, the baby was given two nursings a day in place of two of the bottles. The wet nurse was a pale and chlorotic girl whose own baby did not gain and she was discharged.

October 21 to 28, the baby had one nursing a day from a good nurse, and on October 29 he was given three nursings a day. The amounts of breast milk taken each day are given in Figure 1. Slight improvement began on one nursing a day from the good nurse, and was marked on the three nursings, although the baby received only two and two-thirds to four ounces per day during the first three days.

Case 2.—Atrophic type. E. D., age four months, was sent to the Massachusetts Infant Asylum on Aug. 16, 1905, from the Floating Hospital.[10] Diagnosis: Infantile atrophy. The infant had been losing weight steadily at the Floating Hospital, as shown by the chart, and on the recommendation of Dr. J. L. Morse it was sent to the Asylum to be wet nursed. With three nursings a day and four bottles there was almost immediate improvement. Unfortunately the amounts of breast milk taken by this infant were not determined, but judging from our experience with other cases this infant took only from three to five ounces a day during the first week (Fig. 2).

10. I am indebted to Dr. R. W. Hastings for the records of this infant at the Floating Hospital.

Case 3.— Infectious type. Baby D., aged 10 months, seen in private practice, never nursed. July 21, 1905, a severe prolonged ileo-colitis began. The stools contained a large amount of mucus with a little blood. The temperature at times reached 103. Occasionally there were short periods of slight improvement, but there were repeated relapses, each one leaving the baby weaker than before. The case was seen twice by Dr. J. L. Morse in consultation, and I believe that everything was done for the child in the way of treatment that was possible on an artificial diet.

On September 11, when the baby had been sick about seven weeks, its condition was very alarming. Temperature 102, pulse 160, eyes sunken and frequently rolled up; there were eight to twelve movements a day, copious and composed almost wholly of mucus. Breast milk seemed to offer the only hope, but no wet nurse could be found, and it is improbable that a sick baby almost a year old who had never been nursed would have taken the breast.

On September 12, I called on a neighbor, a nursing mother, and begged her to draw off some of her milk with a pump. That evening she sent in an ounce of her milk, the next morning another, and a third in the afternoon. This breast milk was given to the baby diluted 1/3 with water, in addition to the whey and rice water which he was already taking.

On the evening of September 13, when only three ounces of the breast milk had been taken, there was a marked improvement. The baby was brighter, stronger and seemed hungry, the temperature was lower, and from that time on he continued to improve.

After having this child under observation for seven weeks without ever seeing any decided improvement, one could feel very sure that the baby received something in those three ounces of breast milk which enabled it to resist the effects of the infection.

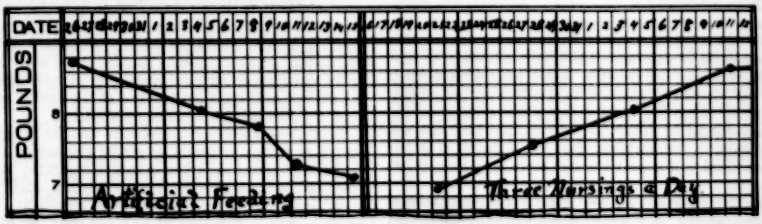


Fig. 2.—Weight chart of Case 2.

If no more than the two ounces a day had been given, I believe the improvement would have continued. However, in order to make the cure a certain one, I visited three other nursing mothers and induced them to contribute some milk. For five weeks the baby was given breast milk (together with its other food) in amounts varying from one to sixteen ounces a day. In all twelve quarts of breast milk were so obtained. I believe that one or two quarts would have been sufficient to save the baby's life, and the remaining ten or eleven quarts might have been used to save the lives of other sick babies.

My experience in the use of small amounts of breast milk in infections has been almost wholly in the infections of the gastrointestinal tract. As the breast-fed infant shows an equally strong resistance or lack of susceptibility to infections of the respiratory tract and to suppurative conditions, there is reason to believe that small amounts of breast milk would also be of value there.

DANGERS OF BREAST MILK.

The importance of securing breast milk from healthy women, free from tuberculosis, syphilis, or other con-

tagious disease, is sufficiently emphasized in the text-books. Of course this is equally important where only a small amount of breast milk is used. It must also be remembered that in the early stages of infections of the gastrointestinal tract there are times when it is dangerous to give milk in any form. Breast milk itself has no bactericidal power and probably furnishes as good a medium as cows' milk for the growth of bacteria. The giving of breast milk to an infant who has an infection with organisms producing toxins in milk may result in the death of the infant, as in the cases reported by Salge.[11] Human milk, however, can be started earlier in gastrointestinal infections than cows' milk, because if the first effects are not too serious it gives the infant increased resistance to the infection from which it is suffering.

CHANGES ARE NEEDED IN THE PRACTICE OF WET NURSING.

The leading text-books of pediatrics discuss the subject of wet nursing as if the only way to secure breast milk for a sick baby was to find a woman who would abandon her own child. Such a course is poor practice and I believe never justifiable. To take away a vigorous healthy child from its mother, and put in its place a sick baby who will at first take only a few ounces a day, is to invite disaster. Stasis will often result and colostrum corpuscles appear in the milk, which rapidly deteriorates. Moreover, the psychologic effect of the presence of the mother's own child, as well as its vigorous nursing, is of great value in securing a normal secretion of milk.

The welfare of the wet nurse's own child must be considered. It might be right for a poor woman to wean her own child if this were absolutely necessary to save the life of a sick baby, but it is not justifiable when it is for the interest of the sick baby also that the mother continue to nurse her child a few times a day. If the statistics quoted by Holt[12] are correct that only one wet nurse's baby in ten survives, then wet nursing as it has been practiced in the past has cost more lives than it has saved.

It is often difficult to secure good wet nurses, at least in Boston, among the class of persons usually employed. This is especially true for families of moderate means and for institutions. A sufficient amount of breast milk can be obtained if we make use of the tenement house mothers, women who would continue to live in their homes.

I have recently tried a plan at the Massachusetts Infant Asylum which has seemed to be satisfactory. A woman came to the asylum at 9 a. m. and nursed two sick babies; at 11:30 she nursed them again, and then returned to her own home in time to get dinner for her other children on their return from school. She nursed her own baby at 3 p. m. and at 5 p. m. returned to the asylum to nurse the two sick babies. The babies were weighed before and after nursing and the woman was paid so much an ounce for the milk she furnished.

The advantages of this plan are obvious. The milk of such women is better than that of the wet nurses whom we are obliged to employ; it is not necessary to take the wet nurse into the household, always an unpleasant feature of wet nursing; and there is no expense for her keep.

The advantages to the poor mothers are equally obvious. Too frequently they have to wean their babies and leave them at the day nurseries in order to go to work at a time when they are unfit to do so. The opportunity to earn a little money by nursing a sick baby would be much appreciated by them, as it was in the case cited. If poor women could have more of such opportunities, the practice of wet nursing would result in saving the lives not only of the sick babies but of the nurses' own babies as well, who would otherwise have to be weaned.

The plan is applicable for private homes as well as for institutions. The practice of weighing babies before and after nursing is of great advantage and is insisted on by Schlossman in all cases in which sick babies are on the breast. It takes very little time, as the baby need not be undressed. It enables one to see just what the baby is getting, and if the nurse's compensation is made dependent on the amount of milk she furnishes, it does away completely with the criticism often made that the nurse will favor her own child at the expense of her foster child.

If a baby can not be nursed, it is often possible to obtain breast milk which has been expressed or drawn with a pump, as was done for Case 3.

NEED OF BREAST MILK IN INFANT HOSPITALS.

The causes of high mortality in infant hospitals have been carefully studied by Huebner,[13] who found that the high death rate resulted from the fact that infants who recovered from the disease for which they entered were stricken down by some infectious process, gastrointestinal disease, bronchopneumonia, etc., to which they often succumbed; so that the mortality of an infants' hospital is the mortality of the diseases for which the infants entered, plus the mortality of the secondary infections which they contract there. In the same way the mortality was high in surgical and lying-in hospitals before the days of antisepsis, on account of the deaths resulting from the secondary infections of wounds.

That these secondary infections can be largely prevented in infant hospitals by giving the babies alternate feedings of breast milk has been demonstrated for many years at the Massachusetts Infant Asylum, and Schlossman[14] has recently reported the same results at Dresden, where he had a mortality of 25.6 per cent., as compared with 58.5 per cent. at the Charité, where no breast milk was given.

Thanks to Moro's[7] work on the bactericidal power of the infant's blood, we can now understand the results of the use of breast milk in infant hospitals. The mucous membranes of the breast-fed infant, owing to the marked bactericidal power of its serum, are not a favorable soil for the growth of pathogenic bacteria. The mucous surfaces of the artificially fed infant, however, with its serum of low bactericidal power, offer slight resistance to the growth of the pathogenic bacteria which are inevitably present in hospitals. The mucous surfaces in the artificially fed infant become just like an open wound, furnishing favorable conditions for the growth of bacteria. Unlike a wound, however, it is not possible completely to protect the infant's mucous surfaces from infection by means of asepsis and disinfection. Something may be done along these lines as Heubner has shown, but only at an enormous *per capita* expense for nursing.

The only way to prevent a high mortality in infant hospitals and institutions is to add a sufficient amount of human milk to the babies' diet to make them resist-

11. Jahr. f. Kinderhlk., vol. lviii, 1903, p. 641.
12. "Diseases of Children," 1900, p. 159.
13. "Säuglingsernährung und Säuglingsspitäler." Verlag von Aug. Hirschwald, 1897.
14. Arch. f. Kinderhlk., vol. xxxiii, 1902, p. 177.

ant to the infections to which they are constantly exposed. Alternate mixed feedings are sufficient to give them this resistance, and the smallest quantities of breast milk are better than none at all.

In view of this knowledge, it is as unjustifiable to keep infants in hospitals or institutions without giving them breast milk, as it would be to conduct a surgical or obstetrical hospital without the use of antiseptic and aseptic methods. The breast milk is just as necessary as the antiseptic methods to prevent the secondary infections. Those in charge of infant hospitals should realize that if they give their infants no breast milk, they are not only failing to give them the best therapeutic measure to hasten their recovery, but they are also exposing them to very serious risks of contracting infections to which they may succumb, even if they recover from the primary disease.

SUMMARY.

1. The chief causes of failure of an exclusive artificial diet are, *a*, disturbances of assimilation, of which infantile atrophy is an extreme type; *b*, a diminished resistance to bacterial infections.

2. The benefits of human milk in these conditions probably depend on the action of ferments, and it is therefore rational to expect to get results from the use of small amounts of human milk.

3. Good results are obtained by the addition to the infant's diet of two to five ounces of human milk a day.

4. Discretion must be exercised in giving breast milk in the early stages of a gastrointestinal infection.

5. It is poor practice and unjustifiable to have a wet nurse abandon her own child in order to nurse a sick baby.

6. Much can be done with breast milk obtained from poor mothers, women living at home, who come to the hospital or house a few times a day. The amounts obtained at each nursing should be determined by the nurse's compensation made proportional to the quantity furnished.

7. It is unjustifiable to keep babies in hospitals or institutions unless a sufficient amount of breast milk is added to their diet to render them resistant to hospital infections.

It is not claimed that small quantities of human milk will accomplish all that larger quantities can, or that every case which improves when wholly nursed, will improve on a small amount. It is always better to nourish a sick baby wholly on the breast, but when we are unable to do this, much can be accomplished by the use of small amounts. As physicians we are not doing the most for our patients if in every case of infantile atrophy, or infectious disease, in which the life of the infant is threatened, we do not make an earnest effort to secure for it at least a small amount of human milk.

Treatment of Corns.—According to J. F. Palmer, in the *Clinical Journal*, Aug. 15, 1906, a corn should never be cut, since the cutting merely removes the superficial hardened epidermis, while the essential part of the corn, the plug of epidermis, which presses into the corium, is untouched. The author says that any uncomplicated corn can be cured if its owner will only permit it. An attack of typhoid fever is a sure cure, as the patient lies in bed and the corn has time to get well. In most cases, however, he states, that it is only necessary to soak the part with water or glycerin during the night and to protect it during the day by a soft perforated plaster of spongiopiline, the perforation of which may be filled with glycerin. Soaking the feet in water containing sodium carbonate, night and morning, may suffice. A corn complicated by suppuration should be treated like any other abscess.

A PLEA FOR A SQUARE DEAL FOR THE WET NURSE.

WET-NURSING OF FOUNDLINGS A PERNICIOUS PRACTICE AND SHOULD BE ABANDONED.*

WILLIAM T. WATSON, M.D.

BALTIMORE.

In Baltimore the care of foundlings devolves on the Board of Supervisors of City Charities. This board is composed of our best citizens, and its personnel will, I am sure, compare favorably with that of any similar board in this country. It is guided only by the best of motives. In matters medical they will, I have no doubt, be glad to act on the opinions of the medical profession and will welcome any light that may be shed on the subject of wet-nursing city babies by its discussion here.

I wish it understood that I am not criticising the board of charities, but only the practice of wet-nursing foundlings which it adopted in good faith, a practice which is in vogue in certain New York institutions on whose boards are some of the leading members of this Section.

A Case in Point.—About a year ago Mrs. M., a wife of a mechanic, gave birth to twins. One died immediately; the other lived three weeks. After the death of the second baby the Baltimore board of supervision of city charities solicited Mrs. M. to take a "city baby" to nurse. For this she was to be paid 40 cents a day. On July 4, 1905, she took the city foundling to raise. The baby was said to be six weeks old. It was a child of a prostitute. The baby was apparently healthy except for a rash about the anus, which soon disappeared.

In August the baby developed "snuffles," which interfered with nursing and sleeping. This lasted six weeks or more. Coincident with the snuffles a fissure appeared near the middle of the upper lip and bled at times when the baby nursed. In October a discrete papular rash appeared over both buttocks. Notwithstanding these symptoms the baby gained in weight and strength, and by November 8, when I first saw it, was on the whole a rather healthy looking infant. Shortly after this date it was returned to the city and is now apparently in very good health.

The members of the board were aware that the wet-nursing of foundlings was fraught with danger to the nurse; they knew that this infant was the offspring of a prostitute. They hoped that, by sending an inspector to see the baby once a week or so, if syphilis developed in the baby, the latter could be removed in time to prevent infection. They put on their medical inspector an impossible task.

No warning was ever given to Mrs. M. that the baby might be a source of contagion. On November 8 I was called to the M. household. On the left nipple of Mrs. M. I found a chancre the size of a quarter and on the lower lip of her 9-year-old daughter a chancre a trifle larger. The mother's infection came from nursing, the daughter's from kissing the infant.

The Situation in the M. House.—The havoc wrought by the board of supervisors of city charities in Mr. M.'s home is unspeakable. It has been converted by the city nursling into a pest house where physical suffering and mental anxiety prevail. Mr. M. and his boy of 4 years must ever be on the alert not to be in close contact with Mrs. M. and the girl of 9. They must not use the same dishes or utensils of any kind. Fear must constantly pervade all or the dread malady will spread in the household. Mr. M. must have no marital relations for from two to four years to come. He can not kiss his wife without danger. The daughter must remain home from school for two years or more, otherwise she may give the disease to her schoolmates as she may even now have given it to her playmates.

Mrs. M., being a conscientious woman, has not taken a drink of water away from home since her trouble became

* Read in the Section on Diseases of Children of the American Medical Association, at the Fifty-seventh Annual Session, June, 1906.

known for fear of spreading the disease; she has not taken a meal or even a cup of tea at the home of a friend or relative for fear she might afflict them. She tries so far as possible to have her daughter live likewise. She has lost weight and strength and is greatly depressed in spirit. She has no heart or strength for her work and her usual household duties are a burden to her. She worries over having so foul a disease and the thought that her husband must regard her as a menace to him preys on her mind. She is sick, humiliated, heart broken. Her home is a wreck.

The possibilities in store for this family I need not go into before an audience of physicians. I will mention but a few. Husband and son may contract the disease. After years of treatment the mother and daughter may or may not be cured. They may die from the disease; they may become insane or paralyzed; their eyesight and hearing may be lost; their noses may cave in or other hideous deformities may result. If they conceive they may abort or give birth to dead babies, or, worse still, to living but syphilitic babies liable to spread the disease and to have such disabilities as may make them a burden on the state.

Measures of Relief for the Afflicted Family.—The board of charities has not a cent which it can lawfully appropriate for their relief. City Solicitor Bruce informs me that there is no provision in law whereby this family can compel the city to pay them one cent for damages or for the treatment of their ills. They have no rights, but must humbly accept such charity (if any) as the city chooses to dole out to them from the mayor's emergency fund.

REASONS FOR CONTINUING THE PRACTICE.

The members of our Board of Supervisors of City Charities, knowing the horrible condition created in this home by their foundling and aware of their own helplessness to alleviate these conditions, nevertheless propose to continue the practice of wet-nursing foundlings. They know and admit that they will sooner or later infect some other innocent unsuspecting family. Their justification is that they will raise more foundlings this way than could be done on the bottle in institutions, and that the system is in vogue in New York and foreign cities and must, therefore, be proper. I grant that they will raise more foundlings by this system, but I maintain that the price is too great when it means the wrecking of the homes of healthy and happy people. Because New York and foreign cities continue the practice, is not an all-sufficient reason to some of us.

They are looking at the subject from a one-sided standpoint, that of the baby's interest alone, forgetting the interests and rights of the community at large. This matter can not be settled by a review of statistics, so many foundlings raised to only so many nurses syphilized. The right of the nursing woman to a square deal must also enter in, and it is the purpose of this paper to make a plea for such a square deal.

RESULTS OBTAINED IN BALTIMORE.

Of 61 foundlings put out by the city to different city institutions between March, 1900, and Dec. 31, 1905, all died; 100 per cent. mortality. The private wet-nursing system was adopted in 1902. Of 18 foundlings wet-nursed since then, 13 died and 5 lived. As a rule, the more favorable cases were selected for wet-nursing.

In four years' time 5 foundlings have been raised, and at what cost! For each 2½ babies raised, to say, from 1 to 4 years of age, they have syphilized one innocent woman. In these two women, one about 30 and one now 10 years of age, the state may lose by abortions or still-births more than five children, and children doubtless of a better mental, moral and physical equipment. Then, think of the mental anguish and physical suffering that has been inflicted on these innocent victims. Of course, if the practice were continued longer, a better showing would doubtless be made.

THE PRACTICE IN VOGUE IN NEW YORK CITY.

Our board has quoted the experience of New York City as follows:

During the last five years in New York, the State Charities Aid Association has handled about 700 infants, over 50 per cent. of whom were foundlings. They had one case in which it seemed probable that the child carried the infection; one case in which it seemed probable that the infection had a different origin.

The New York Foundling Hospital, the New York Infant Asylum and the New York Guild of the Infant Savior have used the wet-nursing system for three or four years. These institutions receive from 1,500 to 1,800 infants a year, mostly illegitimate, though probably not over 125 are foundlings. Each institution has had one case in which an infant infected the wet nurse.

The number of foundlings raised to each woman syphilized is not given. The showing is apparently very much better than that of Baltimore. If, however, these New York cases were investigated, possibly infected husbands and children might be found and the subsequent progeny of these mothers may be syphilitic.

INFECTION OF INNOCENTS IS INHERENT IN THE PRACTICE.

Wherever this system of wet-nursing is in vogue there chancres of the breast abound. Some years ago Bulkley collected 1,148 cases of chancre of the breast. He says regarding them: "Italy takes the lead, furnishing 33 per cent. of the cases. Russia, Poland and France also give large numbers, in all of which countries baby farming is very prevalent."

Conditions are such that these infections can not be avoided. In the first place, hereditary syphilis is extremely contagious. Morrow says:

Nothing is more certain than that the cutaneous and mucous accidents of hereditary syphilis are eminently contagious. Abundant clinical observations prove that nothing is more dangerous to the persons surrounding it than a syphilitic infant. . . . A syphilitic child will almost certainly infect a healthy nurse.

Bulkley says:

When the nurse is not the mother there is no question in regard to infection readily taking place and the instances of reported chancre of the breast given to healthy nurses by children with inherited syphilis are so innumerable that it is hardly necessary to illustrate the subject.

In the second place, the diseased condition of the infant is usually masked, for the baby may appear perfectly healthy up to three months or more. In the third place, infection may take place through and from the most minute lesions. These being the facts, no amount of inspection of these babies can protect the wet-nurse.

DECEIT AND IMPOSITION ARE INSEPARABLE FROM THE PRACTICE.

If, when the city's agent calls on the bereaved mother and asks her to nurse a city foundling, she, at the same time, tells her the truth as known to the board of charities, that the baby may have this loathsome disease, that she may contract it and be ruined in health, may in turn give it to her husband and children, may transmit it or its effects to two generations, that her husband might have to shun her for several years—would any

woman not a fool accept such a baby? If the woman is unable to understand the dangers, then to induce her to take it is to take a mean advantage of her ignorance. If a contract is signed with the nurse and the word "syphilis" incorporated in it without its significance being effectually explained, then it is no more than a despicable trick to entrap the poor woman and to release the city from the dangers of a suit. Mrs. M. says that, had the dangers been intimated to her, not for the world would she have taken the tainted baby. Mr. M. is even more emphatic.

If the truth is told to these wet-nurses there will be no wet-nursing of foundlings.

A VIOLATION OF THE GOLDEN RULE.

If a man saw my wife and daughter in danger of acquiring syphilis and gave no warning, I would regard him as inhuman. If a man knowingly put my wife and daughter in danger of syphilis and gave no warning and they acquired it, I would consider a bullet too good for him. The Board of Supervisors of City Charities put Mr. M.'s wife and daughter in danger of acquiring syphilis without warning and they acquired it. Not a member of the board would care or dare to put a member of his own family or social circle or acquaintanceship in danger of acquiring syphilis for the sake of enabling the city to raise more foundlings.

Because these women are poor and live humbly, the board seems to consider (by what right I know not) that they are in a class with rabbits and guinea-pigs to be inoculated with disease, if necessary, for what it considers the public good. This is a clear violation of the golden rule and is a class distinction which may go in Europe, but which, I believe, will not go in this country when properly brought to public notice.

I have asked many physicians, several lawyers and ministers of the gospel if they would allow themselves or their families to be endangered by syphilis for the sake of allowing the city to raise a few bastard children. I have always received an emphatic "No." I ask my brother physicians here and now the same question as regards themselves and their families.

THE PHYSICIAN'S DUTY TO PROTECT THE NURSE.

It has been said that these nurses when they enter the city employ are on the same footing as firemen, policemen and street cleaners, who are all subject to risks connected with their duties. This is, of course, a very superficial view of the case, for the dangers to which these employés are subjected are obvious and can be comprehended by a child. The insidious dangers of syphilis can only be comprehended by one who has had a medical training. When 40 cents a day is held before the eyes of a woman of limited means, limited education and limited intelligence, she is thereby absolutely blinded to any insidious dangers. Let us, who can see, protect her.

THE PRACTICE IS A PERNICIOUS ONE AND SHOULD BE ABOLISHED.

This practice is fraught with danger to innocent people; it can only exist by the practice of cruel deceit and by making a class distinction that ought not to be countenanced in the United States. Better, in my opinion, that every city foundling should die than that the health and happiness of one innocent woman should be sacrificed. Our city has heretofore apparently not regarded the lives of foundlings as of great importance, for it has never paid institutions more than 20 cents a day for their housing, feeding, nursing and medical care. But now, forsooth, they are regarded as of such value that women must be syphilized in order to raise them. This new standard of value seems to me sentimental and unreal. Common sense does not accord these waifs such a right to life.

THE WAY OUT.

But need these babies all die, if wet-nursing is abandoned? In the past fifteen or twenty years we have seen the evolution of a trinity of useful agencies that may be combined for the benefit of these little waifs, pediatrists who make infant feeding a specialty, trained nurses and milk laboratories. When these agencies are utilized to their limit (which as yet has not been done), then many foundlings will be raised. If babies yet die, who will cast on the city authorities the slightest blame?

THE DISCUSSION ON THE PAPERS OF DRS. DENNY AND WATSON COMMENCES ON PAGE 1949.

A SERIES OF INTERESTING CASES OF SURGICAL CONDITIONS OF THE KIDNEY.

G. FRANK LYDSTON, M.D.

Professor of Genitourinary Surgery and Syphilology, State University of Illinois; Attending Surgeon, St. Mary's and Samaritan Hospitals.

CHICAGO.

CASE I.—RENAL SARCOMA IN A CHILD.

History.—A child, a year and a half old, was brought to me with a history of hematuria of four weeks' standing, and with a "lump" in the right side. The tumor had been discovered accidentally only a few weeks before the hematuria began; it was, therefore, impossible to determine when the growth had first developed. The child had always been fretful and poorly nourished, but had apparently suffered no pain until five or six weeks before I was consulted. There was a history of possible injury to the back some six months before the hematuria was noticed. A blow on the back was produced by the nurse letting the child fall in taking it out of the crib. The child cried a little after the accident, but was soon thereafter apparently none the worse for it. Family history was negative.

Examination.—Examination revealed a smooth, ovoid, moderately hard tumor in the right ileo-lumbar region. The tumor was apparently the size of a small orange and was distinctly retro-colonic. The child was restless under examination, but the tumor was not painful to pressure. The growth was almost, if not quite, immovable, and was apparently solid. Examination of the urine revealed bloody urine. The hematuria, the mother stated, had been constant since its inception. She also stated that the child's emaciation was increasing very rapidly. There was no rise of temperature. So far as could be learned, the child gave no manifestations of pain in passing urine. Micturition was no more frequent than in healthy children. Aside from the presence of blood, the microscope showed no abnormal characters of the urine.

Further History.—A diagnosis of sarcoma of the right kidney was made, and an unfavorable prognosis given, but operation suggested as the only possible chance of relief. Operation was declined. I lost track of the case for several weeks, when the patient was brought to me again, and I was requested to operate. I, however, refused to do so, as the child was in such condition that operation was, in my opinion, absolutely unjustifiable.

Autopsy.—I impressed on the family the advisability of an autopsy on account of the important bearing of the findings on the family history. My argument must have appealed forcibly to the relatives of the child, for when it died, several weeks later (about 3 months from the time the hematuria began), I was permitted to perform an autopsy and verify the diagnosis of renal sarcoma. The tumor had grown to double the size presented at my original examination, and had become

slightly lobulated. As one of the conditions on which the autopsy was granted was that no organs should be removed, I was not able to make any examination of the gross specimen. I was able to take a small portion of the kidney for microscopic examination, however, and was thus able later to verify the diagnosis.

The probabilities are that in this case the tumor had been developing for some little time before hematuria began. Because of its painlessness and the fact that it grew to a considerable size before it made itself evident in the flank it had eluded observation.

A somewhat similar case came under my observation several years ago:

The mother of the child had suffered from an attack of pneumonia just before confinement. The child was improperly fed, the quality of the food being poor and the quantity insufficient for its nourishment. When first seen he was in a marasmic condition from simple inanition. Under proper feeding improvement occurred, but at the age of 3 months the child began to cry incessantly and was evidently suffering considerable pain. Hematuria developed; the abdomen became swelled and tympanitic; the stomach refused to accept nourishment, and in a few days diarrhea supervened, wasting being consequently very rapid.

A few days later the distension of the abdomen disappeared, and careful examination revealed the presence of a flat, lobulated tumor, corresponding to the situation of the left kidney. This occupied about one-half of the abdomen, was moderately movable, and presented the usual physical signs of renal tumor. After a day or two marked and persistent hematuria occurred. A diagnosis of renal cancer was made. The child died within two weeks after the development of marked symptoms, but unfortunately, an autopsy could not be secured.

Alsberg[1] quotes an interesting case of a similar nature:

A girl, aged 5, who had previously been well, suddenly had an attack of hematuria, the source of which could not be discovered. Three months later swelling appeared in the right renal region, which was believed to be due to a malignant growth on account of its rapid development. The swelling was punctured, and the fluid withdrawn was examined microscopically. It showed the microscopic characteristics of renal cancer.

The tumor was extirpated by Bergmann's method, an incision being made on the anterior aspect of the abdomen, the peritoneal cavity being avoided. The immediate results of the operation were sufficiently satisfactory; there was no evidence of shock, and after two months the abdominal wound had completely cicatrized. Eleven months later the child died from a recurrence of the disease in the cicatrix, with extensive metastases in the liver and lungs. The left kidney was entirely healthy.

Alsberg suggests that one should always bear in mind the possibility of the presence of malignant tumor in one or the other kidney when a child suffers from hematuria, the cause of which is obscure. He says further that with regard to surgical intervention it is, of course, essential that a precise diagnosis should be made at the earliest possible moment.

In connection with these cases it should be noted that while blood in the urine, in conjunction with a solid tumor of the abdomen located behind the colon, is generally supposed to be pathognomonic of renal cancer, Roberts has called attention to exceptional cases, in which an enormous cancerous renal enlargement was not attended by hematuria. Blood in the urine does not occur in the beginning in all cases of renal cancer. Both of my cases illustrate this point. Many cases do not develop hematuria at all, although it does develop in considerably more than 50 per cent. of the cases. As a rule, blood occurs in considerable quantity.

1. Revue Mensuelle des Maladies de l'Enfance, June, 1888.

CASE II.—PYLONEPHRITIC AND PERINEPHRITIC ABSCESS OF UNKNOWN ORIGIN MISTAKEN FOR APPENDICITIS.

History.—A woman, aged 45, was brought to me with a history of pain and swelling in the right side of the abdomen, attended by chills, daily evening chill, and constant temperature, with evening exacerbations. She had been in this condition for nearly two months. The urine showed only a moderate amount of pus. This, the patient stated, was not constant, the urine sometimes being as clear as she had ever known it. A diagnosis of appendicitis had been made, and operation suggested by her family physician.

Examination.—Physical examination revealed a tumor occupying the right flank, extending to the mesial line of the abdomen. The tumor was tender, immovable, and non-fluctuating. The colon was evidently displaced toward the median line. The tumor was uniformly dull on percussion. The patient stated that she had been troubled greatly with constipation for some weeks. Careful inquiry elicited the fact that more or less pain in the right side of the back radiating down in the direction of the ureter, and associated with frequency of micturition, had existed for some time.

There was a distinct history of a fall with injury to the corresponding side of the back some four months or more previously. The patient and her friends were unable to give the precise date of this injury; they were, therefore, compelled to approximate the time that it occurred. The urine contained a small amount of pus and blood, but was otherwise normal, save with reference to quantity, which was considerably diminished, the amount of excretion being 700 c.c. per diem.

Operation.—A diagnosis of renal or perirenal abscess was made, and immediate exploratory operation advised and consented to. Diagnosis was verified by the operation; the kidney was found extensively disorganized and riddled with abscesses. Surrounding the kidney was a large multilocular abscess extending as far as the middle line of the abdomen and well known to the iliac fossa. The upper part of the kidney was buried in a mass of exudate and adhesions. While the kidney apparently was a useless organ, it was not deemed advisable to remove it by primary nephrectomy. Drainage was, therefore, instituted, and the patient and friends informed that a secondary nephrectomy would probably become necessary.

Six weeks later the patient left for home with but a small sinus remaining. The urine escaped from the wound and the subsequent sinus for several months, but the track finally healed and the patient was apparently as well as she ever was in her life.

Cases like the foregoing illustrate very pertinently the fact that the recuperative power of the kidney is something which is very difficult to estimate at the time of an operation. The kidney, which is apparently a mere shell, will not infrequently be restored to a certain degree of structural integrity and functional capacity following the evacuation of pus. As the quantity of urine increased very rapidly after the operation, I have reason to believe that the remnant of kidney left by the operation resumed its functions. I will admit that complete healing of the wound may have been due to the kidney becoming obsolete; still, the escape of urine from the sinus during the time the latter remained open, and the speedy closure of the sinus, rather argued against this view. It is certain that cases of this kind emphasize the necessity of conservatism and the performance of nephrotomy and drainage rather than a primary nephrectomy. This is in general a good rule to follow in suppurating kidney. It must be acknowledged that, in certain septic cases in which the existence and normal function of the opposite kidney has been established, the constitutional condition may demand primary nephrectomy as the operation which is most likely to yield a favorable result.

It is hardly safe to formulate a hard-and-fast rule in these cases. Possibly the safest ground to assume would

be that nephrotomy rather than nephrectomy should be performed unless there are special indications for nephrectomy in a given case. The question, after all, must be decided on the merits of the individual case.

CASE III.—HEMATURIA IN INCIPIENT MALIGNANT DISEASE OF THE KIDNEY.

History.—A woman, aged 40, was brought to me with a history of hematuria of six months' standing, associated with paroxysmal pain in the left lumbar region, reflected along the course of the ureter. The hemorrhage was not constant, nor was it always synchronous with pain in the region of the kidney. During the attacks of what were evidently renal colic, ureteral casts were expelled on several occasions, their expulsion being followed by immediate relief. The amount of blood in the urine varied from a slight tinge to, as the patient expressed it, "almost pure blood." It is unnecessary to call attention to the tendency to exaggeration on the part of the patient as to the quantity of blood contained in the urine in hematuria.

Examination.—Cystoscopic examination during a moderately severe attack of hematuria and pain showed that the blood was coming entirely from the left ureter. The kidney was in its normal position, and was tender on pressure. The pressure sometimes produced pain similar to the colicky attacks which the patient experienced. The *x*-ray was negative; but the symptoms persisting, an exploratory incision for a probable small renal calculus was advised.

Operation.—At the operation I split the kidney freely, and after careful palpation and inspection was unable to find any trace of calculus. The kidney was larger than normal and intensely congested. There was no macroscopic evidences of neoplasm present. Patient was temporarily relieved of pain and hematuria.

Postoperative History.—When heard from several weeks after her return home, she expressed herself as delighted with the result. Some three months later I heard that the hemorrhage had returned, but without a recurrence of the pain. I subsequently lost track of the case, and it eventually fell into the hands of one of my surgical friends, who operated, and found sarcoma of the kidney which I had incised.

This is the second case of the kind that has come under my observation, the first having subsequently fallen into the hands of my friend, Dr. Theodore A. McGraw, who also removed a sarcoma of the kidney on which I had operated by simple nephrotomy. These cases are important as bearing on the pre-malignant stage of sarcoma and carcinoma of the kidney, and raise the question as to whether a nephrectomy would not be justifiable in some cases in which all the symptoms of calculus are present, and yet no calculus is found on exploration of the kidney. It is, of course, necessary to take into consideration the possibility of a circulatory disturbance of one or the other kidney sufficient to produce pain and hematuria without the presence of either calculus or malignant disease. Whether or not vasomotor disturbances may produce such a condition is open to argument.

CASE IV.—TUBERCULOSIS OF THE KIDNEY.

History.—A man, aged 32, strong and healthy-looking, was referred to me for operation for what had been diagnosed as renal calculus. There was an obscure history of an injury in the left renal region, occurring several years before I was consulted. For one year prior to the time of my examination the patient had experienced slight attacks of nephritic colic associated with hematuria. The pain was located on the left side. The attacks occurred at intervals of from 1 to 3 months. There was no rise of temperature, and at the time I first saw the case the urine was perfectly clear. On several occasions during the attacks, ureter-moulded clots were expelled, with sudden cessation of the colicky pain.

Examination.—*X*-ray and cystoscopic examinations proved negative. The urine contained mucus in slight excess, but no evidences of suppurative inflammation of the kidney or bladder. There was no history of specific infection.

Suspecting the existence of incipient tuberculosis of the kidney, and the microscopic examination of the urine failing to show tubercle bacilli, I suggested an inoculation test for tuberculosis. At the end of five weeks the guinea-pig showed a characteristic nodule at the point of inoculation, with associated nodulation of the lymphatic glands. Microscopic examination of the excised lymph nodes and the induration demonstrated the existence of tuberculosis.

Patient was sent away for a change of climate, but returned six months later with turbid urine and an increase in the frequency of urination. Examination of the urine demonstrated the presence of the bacillus tuberculosis. The cystoscope showed the bladder still healthy. The opposite kidney was apparently doing its work properly, the urine from this side being perfectly clear, as shown not only by the cystoscope but by the segregator, which in this case acted admirably well.

Operation.—Operation was suggested and readily consented to. The kidney, as to cortex, was perfectly normal, but there was a typic tuberculous pyelitis. Numerous cheesy nodules were just beginning to break down. No stone was found. The kidney was removed, patient recovered promptly, and at last reports, 6 months after operation, patient still remained perfectly well.

A very similar case recently came under my observation, in which the guinea-pig test alone enabled me to make a diagnosis. This patient is now in Arizona, at last reports was improving, and I hope will be able to avoid an operation.

CASE V.—RENAL CALCULUS WITH EXTENSIVE DISORGANIZATION OF THE KIDNEY.

Patient.—Man, aged 47, was referred to me, suffering with severe pain in the right ileo-lumbar region, associated with a tumor, which had filled the entire flank almost to the median line of the abdomen.

Examination.—The tumor was dull on percussion, save toward the median line of the abdomen, where the characteristic tympanitic note of displaced colon was obtained. The tumor was extremely tender on pressure. Pain was constant. The patient lay with his right thigh flexed on the abdomen in a manner suggestive of the presence of suppurating appendicitis. Temperature ranged from 101 in the morning to 103½ in the evening. There was a daily chill, followed by a sudden exacerbation of temperature occurring late in the afternoon. Profuse night sweats were complained of. Patient had been in this condition for about three weeks. The urine was heavily loaded with pus and blood. There had been no symptoms referable to the opposite side.

History.—There was a history of a number of attacks of renal colic. The diagnosis of renal calculus had been made about a year before I saw the case, and an operation performed. The kidney was incised and, according to the patient's story, some sort of fluid removed, but no calculus found. The diagnosis of suppuration in and about the kidney, probably secondary to calculus in the pelvis of the kidney, was made by me and an operation suggested and consented to.

Operation.—The usual lumbar incision having been made, the sac of a huge abscess was exposed. On incision of the sac an enormous quantity of fetid, ammoniacal pus escaped. This was apparently mixed with urine. The abscess cavity was found to be composed of numerous loculi, one of which extended forward and inward to about the region of the gall bladder. The lower portion of the abscess sac extended well down into the pelvis. The upper portion of the sac was found to be composed of thinned-out renal cortex, which had apparently returned at several points, at which there was a communication with the secondary cavities formed by the perirenal infection and accumulation of pus. A calculus weighing 5 gm. was found in the pelvis of the kidney, blocking up the ureter (Fig. 1).

The kidney being so thoroughly disorganized, I thought it wise to make the case an exception to the rule and to perform a primary nephrectomy. I, therefore, isolated the sac, so far

as the portion of it exposed by the kidney was concerned, with the intention of forming a pedicle and performing nephrectomy in the ordinary manner. In freeing the sac, much to my consternation, I peeled out the remnants of the entire kidney. I expected a severe hemorrhage, which was likely to prove very annoying on account of the depth at which the renal vessels were situated in the bottom of the huge abscess cavity, and the immediate impossibility of forming a pedicle for ligation. Much to my gratification there was no hemorrhage, the renal blood vessels having been obliterated. I had had this experience in one previous case, and in several on which I operated since.

Recovery in this case was uninterrupted, and the healing of the wound was complete at the end of 5 weeks. The urine cleared up within 26 hours, and has since remained perfectly clear. The patient at this writing is, as he expresses it, as well as he ever was in his life.

CASE VI.—RENAL CALCULUS.

History.—A woman, aged 35, with a history of left renal colic from time to time for a period of 5 years, small stones had passed on several occasions during micturition. The attacks had been associated with moderate hematuria. The last attack had occurred about 2 weeks before the patient consulted me. No stones had been passed since this attack.

Examination.—*X*-ray examination of this case was negative. The urine showed a considerable number of leucocytes and a few red blood cells, but was otherwise normal in constitution and amount. The patient had had various forms of palliative treatment, and her family physician had suggested an exploratory operation, so that she was ready to submit to any procedure which promised relief.

Operation.—I performed a nephrotomy and found in the pelvis of the left kidney five small calculi (Fig. 2).

Healing was prompt and satisfactory. Patient returned home apparently well, with the usual injunctions as to diet, water drinking and bathing, with a view to the prevention of further calculus formation. In a recent letter the patient informed me that she has had several slight attacks of renal colic on the opposite side within the past three months, so that it is possible I may again have occasion to explore the pelvis of the right kidney.

CASE VII.

History.—A woman, aged 40, with a history of severe attacks of renal colic attended by hematuria coming on at varying intervals for a period of 14 years, was taken with a severe attack of what was described as dysentery, about a week before coming under my care. The discharges were frequently painful and attended by severe tenesmus. The patient as not sure whether there had been any blood in the stools or not.

Course of the Disease.—At the time of my first visit the pain had become localized in the vicinity of the right kidney. There was distinct tenderness in the loin and anteriorly in the flank. The urine contained abundance of both blood and pus. The pain radiated typically along the ureter and was associated with frequent and painful micturition. The quantity of urine was considerably less than normal. The temperature varied from 101 in the morning to 102 in the evening. Patient stated that an *x*-ray examination had been made and a calculus found. I endeavored through the husband to secure the *x*-ray picture from the physician who had it in his possession, but was unable to do so, notwithstanding which I felt warranted in making a diagnosis of calculus in the pelvis of the right kidney and a calculous pyelitis. Urinary examination for tubercle bacilli was negative.

Operation was declined, so there was nothing to do but palliate. At the end of about a week the pain had disappeared, although the condition of the urine remained practically the same. The temperature remained uniform, approximating 102 F. I noticed at this time that the patient had a slight cough, and that in blowing the nose or expelling mucus from the throat, a small amount of blood was expelled. This, taken in connection with the suggestive facies aroused my suspicions, and I had a blood examination made, which showed a typic Widal reaction. The diagnosis of typhoid being thereby established, I turned the case over to Dr. William E. Quine for medical treatment. The characteristic rose spots were discoverable a few hours later, and were very plain when Dr. Quine and I first examined the case. The case ran the ordinary course of typhoid, but an unfortunate complication developed in the form of double parotiditis, a condition which proved exceedingly painful and exhausting.

I was asked by Dr. Quine again to take the surgical management of the case, and subsequently operated on first one parotid and then the other, evacuating a small amount of pus and necrotic gland tissue. The operations afforded relief. The patient was apparently convalescing nicely when severe pain recurred in the kidney, with an associated rise of temperature. The urine, meanwhile, had been at no time perfectly clear, although it had improved considerably.

Operation was suggested, but declined. The patient subsequently suffered so severely that it was necessary to administer large doses of opiates, and finally chloroform, in order to give her relief.

Operation.—Operation was finally consented to, but deferred until relatives could arrive from a distance, three or four days of valuable time being thereby lost. The last 48 hours before the operation the patient was compelled to take chloroform very frequently to afford relief from the frightful pain. I finally performed the operation and found the kidney extensively broken down, and the seat of three large abscess cavities connecting with a perinephritic collection of pus. In the pelvis of the kidney the stone showed in Fig. 3 was found.

The patient did not react from the operation, but died of shock, two hours later.

The coincidence of typhoid fever and the establishment of a diagnosis of that disease as an intercurrent condition in the course of severe and continued nephritic colic, followed by renal and perirenal abscesses from stone, form a very unusual and interesting clinical picture.

CASE VIII.

Patient.—A man, aged 40, referred to me for treatment of multiple perineal urinary fistulæ, secondary to slight coarctions of the bulbo-membranous region. One on the right side of the urethra had evidently resulted from suppuration of Cowper's gland on that side. There was a moderate amount of pus in the urine, and some slight irritability at the vesical neck, symptoms which were readily accounted for by the condition of the urethra.

Treatment.—Perineal section with excision of the fistulous tracts was recommended, but declined. Treatment by dilation and the instillation of antiseptic solutions was, therefore,

adopted. Dilation was carried on with fair results, although from time to time slight chills and febrile reaction followed the treatment. There was occasionally slight febrile reaction in the intervals of dilation. There was an obscure history of pain of a slightly colicky character in the vicinity of the left kidney. Slight recurrences of this occurred during the course of treatment by dilation. Stone in the kidney has been suspected.

The patient being decidedly adverse to any surgical interference, and of a rather nervous temperament, inclined to worry, I resolved not to make any very thorough examination as to the presence of calculus, so long as the patient remained in good condition. One year after coming under my observation the patient developed a large periurethral abscess, which burrowed forward into the scrotum in the median line.

Operation.—I suggested immediate operation, which was consented to. The operation necessarily proved to be a very formidable one. Very extensive dissection was necessary for the removal of the indurated and infiltrated tissues and fistulous tracts.

Patient took the anesthetic well, the irritability of the bladder subsided under subsequent drainage, and the postoperative course was ideal for several weeks, with the exception of the necessity of reopening some of the wound tracts, where the attempt to secure primary union failed. The perineum finally healed almost completely, leaving a very small fistulous opening in the median line, which subsequently closed soundly.

Further History.—During the persistence of this slight fistula, about a month after the operation on the perineum, but while the patient was still in bed, he developed severe pain in the vicinity of the left kidney, which was soon followed by the appearance of a large quantity of pus in the urine. The urine had cleared up almost completely after the perineal operation. No tumor in the flank was discernible. The temperature rose and there were slight chills. These symptoms followed almost immediately after the introduction of the sound for the purpose of dilation of the urethra, and were at first attributed to urinary fever, the pain originating in the kidney and disappearing very rapidly. A recurrence of the attack in conjunction with the more or less obscure history of trouble referred to the left kidney in times past, induced me to have a skiagraph taken. The skiagraph findings were not clear, but were suggestive of stone in the left kidney. The patient failing to improve there was at no time any swelling perceptible in the flank, but some tenderness on pressure. A cystoscopic examination was made, and the pus found to be issuing from the left ureter, the urine from the right side being perfectly normal. Operation was decided on.

Second Operation.—The patient bore the anesthetic very badly, and I narrowly missed losing him on the table, resuscitation being established with great difficulty. The shock of the operation was by no means an unimportant factor in the patient's collapse, and it was some hours before reaction was established. The kidney was found to be pretty thoroughly disorganized and the seat of three large pus cavities. The fatty capsule was adherent throughout, and had undergone almost complete cicatricial transformation. It was found almost impossible to deliver the kidney, and an incision was made at its border without doing so. After evacuation of the abscesses the kidney was explored with the finger and the stone shown in Fig. 4 found and removed. The patient did well after the operation, and the wound healed promptly, but left a fistula behind which at the end of almost a year still refused to close.

During the postoperative period there were from time to time exacerbations of temperature. Secondary pus pockets and sinuses formed in the vicinity of the original sinus on several occasions.

Third Operation.—It was finally evident that the kidney would have to be removed and I, therefore, performed a nephrectomy, which, on account of the adhesions and the immense amount of cicatricial tissue in which the kidney was embedded, proved very tedious and difficult. Mindful of my previous experience with the anesthetic in this case, I used the scopolamin morphin method, and succeeded in getting through the tedious and prolonged operation with about half an ounce of chloroform. As one of the internes remarked, the patient left the table in better condition than when he was placed on it. The postoperative course was well nigh ideal. The patient is perfectly well.

CASE IX.

History.—A woman, aged 32, consulted me regarding typic renal colic on the left side, from which she had suffered for over ten years. The attacks had latterly been growing much worse and were then recurring at intervals of about two weeks. The attacks were attended by marked hematuria, and between attacks the urine constantly contained an amount of blood appreciable macroscopically, with a small quantity of pus.

Examination.—The skiagraph plainly showed a calculus in the pelvis of the left kidney. Segregation of the urine of the opposite kidney showed it to be performing its function normally.

Operation.—Operation was proposed and consented to. The usual operation of nephrolithotomy was performed, and the calculus seen in Fig. 5 removed. There was no suppuration in or about the kidney, the pus in the urine evidently having originated in the calculous pyelitis.

Recovery was uneventful. The urine escaped from the wound for some time, but at the end of five weeks the fistula was soundly healed.

FIG 5

FIG 6

The form of the calculus in this case is interesting as explanatory of the severe pain the patient experienced. It is extremely irregular, its surface presenting numerous spines, which might naturally be expected to produce severe irritation.

CASE X.

History.—A man, aged 35, with a history of recurrent right renal colic of one year's duration. The patient also stated that some six or seven years before, the exact date having escaped him, he had had a slight attack of renal colic, and passed a small calculus from the bladder, which was said to have been of renal origin. The urine had never contained any pus or blood, according to the patient's statement. The microscope showed both in small quantities. The attacks had recently grown more severe, and were recurring at intervals of about four to five weeks. Skiagraphy in this case gave apparently negative results.

Operation.—The patient consented to an exploratory operation, which was accordingly performed. Two small calculi were found in the pelvis of the kidney. One of these only is shown in Figure 6, the other having been lost in some way. Recovery in this case was interrupted, the wound being solidly healed at the end of the third week.

When this case was last heard from, 18 months after opera-

tion, patient had had a recurrence of the nephritic colic, several slight attacks having occurred during the last 2 months. I have not as yet had an opportunity to examine the patient, but presume that calculus has re-formed in the kidney, as the pain is on the same side as the operation.

Clinical Notes

A CONDITION IN A CASE OF TYPHOID FEVER SIMULATING INTESTINAL PERFORATION

PRODUCED BY A MEDICINAL DOSE OF OPIUM.

JAMES K. HALL, M.D.
Assistant Physician, State Hospital.
MORGANTOWN, N. C.

The following case was of extreme interest to me because of inability to discover an underlying pathologic cause for severe and unusual symptoms in a fairly mild attack of typhoid fever.

History.—B. M. F., white, male, single, aged 23, who for the past two years has been an attendant in this hospital, most of the time on night duty, came to me on July 31, 1906, and asked for medicine for the relief of a very severe headache. Inquiry brought out the fact that he had not been well for several days. Headache had been constant, and, in addition, there was general muscular discomfort, loss of appetite, uneasy sensations in the upper abdomen, and inability to sleep. At this time the tongue was furred, the temperature was 102, and there was slight acceleration of the pulse rate. He was put to bed, the bowels were opened with small doses of calomel, followed by a saline, and the diet was restricted to milk. The temperature on the following day ranged from 101.2 in the early morning to 103.4 at 6 p. m.; the pulse rate varied from 96 to 106; the respirations were about 22. The heart sounds were normal and no evidence of pulmonary or pleural disease could be discovered by physical examination. There was, perhaps, slight abdominal distension; tenderness and tumors were absent, but there was complaint of constant pain in the epigastric region and in the lumbar muscles.

There were several cases of enteric fever in the institution and this case was regarded as the beginning of such an attack. For several days the temperature range was from about 101 to 103.5, and there was little change in the condition except for the increased severity of the headache and the discomfort in the upper abdomen.

Administration of Opium.—For several days no medicine was given, but the complaint of headache became so constant that Dover's powder, gr. 10, was finally allowed. The powder was given in capsules at 10 p. m., August 5. At that hour the temperature was 102.2, pulse 90, respirations 22. At 12:30 a. m., two and a half hours later, I was hurriedly called to the patient's bedside, and found him in a paroxysm of agonizing pain. Bent almost double, he was tossing from side to side of the bed, and protesting that he could not live unless he obtained relief. His face had lost its flush, and was pale and anxious, and covered with a cold sweat; the pulse was rapid and weak, and the general appearance of the patient suggested great pain. In a few moments, when there was temporary relief, he described his sufferings as an awful colic, more severe, perhaps, in the upper right half of the abdomen. Paroxysms followed each other at about ten-minute intervals, each paroxysm lasting from three to five minutes. Soon after reaching him I administered an eighth of a grain of morphin, hypodermically, but relief did not result. In an hour, however, he was fairly comfortable. At 3 a. m. the temperature had fallen to 98.5; the pulse was 80, small and weak. Three hours later the temperature was 96.8, while the pulse rate was only 76 and the pallor was marked. Early in the morning the patient vomited once or twice.

Examination of Abdomen.—The abdomen was carefully examined, but aside from very slight tenderness in the upper right quadrant, nothing unusual was to be found. The abdominal wall was not rigid; there was no undue distension; liver dulness was normal; the spleen was barely palpable just below the costal margin, and flank dulness was absent.

Course of Disease.—The patient was comfortable, and during the day there was a gradual rise of temperature to 103 in the afternoon. The pulse improved in quality, the color was better, and the general condition became more hopeful.

Within the next few days the symptoms of typhoid fever became more prominent. The pulse developed a dicrotism and several rose spots were found on the chest and abdomen. The leucocyte count was about 6,500. The urine was dark amber colored, acid, specific gravity 1,020, showed a trace of albumin, no sugar, no casts, no bile pigment, but reacted positively to Ehrlich's test. During this time the patient was free from pain, took a sufficient quantity of milk, and had a bowel movement about every third day. The tub bath was used to reduce the fever.

Second Administration of Opium.—After a few days the patient again began to complain of headache, abdominal and lumbar pains, and could not understand why he should not be taking medicine regularly. I again yielded, against my judgment, to his importunities, and gave 1 gr. of pulverized opium at 10 p. m., August 8. Before three hours had passed I was called to the ward and saw him pass through a series of paroxysms of abdominal pain, almost, if not quite, as severe as those of the first attack. The attack, too, was accompanied by pallor, relaxed skin, cold sweat, weak pulse, and a decline in temperature from 102 at midnight to 97 six hours later. So severe did the suffering seem that one could well believe the patient's statement that unless he obtained relief he would soon be dead. An eighth of a grain of morphin was again given by hypodermic, and the bowels were moved by an enema. Slight vomiting again occurred, and after perhaps two hours the pain had subsided. Careful physical examination was again unable to establish the cause of the trouble. Within two days the temperature was running its usual course; within ten days convalescence was beginning, and recovery from that time was rapid.

Now, what was the cause of these alarming attacks of pain? The condition of the patient when I was called to see him during the first attack might have been explained by the presence of an intestinal perforation, accompanied by hidden hemorrhage, and I feared that this was the origin of the trouble. The rapid improvement in the patient's condition, however, induced me to doubt this tentative diagnosis, and the occurrence within a few days of a similar attack, followed by no grave sequelæ, caused me to abandon absolutely the theory of intestinal perforation.

The family history and the previous history of the patient were not helpful. The father died of enteric fever a few years ago; there are in the family eleven other children in good health. The patient states that a few years ago he had a severe attack of blood poison, resulting from a wound on one of the lower extremities. Two years ago he had grippe. He was never jaundiced, and had never experienced difficulty in urinating.

I had in mind, especially at the time of the second attack, the possibility of gallstones, or kidney stones, but the evidence in favor of these factors was extremely slight. Gallstones were not found in the intestinal dejecta, bile was not present in the urine, the gall bladder apparently was not enlarged and not tender, and jaundice did not occur. There were in the urine no findings to justify the assumption that the urinary tract had been traumatized by a stone.

It is to be noted that in each instance the attack of pain occurred after opium had been taken, and in each instance the first seizure came on about two hours and a half after the drug was given. The patient did not know at the time what the medicine was which he was taking, and he has told me since then that he does not think he ever took opium in any form before.

Although I am well aware that my conclusion is far-fetched, nevertheless I am more and more inclined to believe that the patient was exhibiting unique manifestations of the physiologic action of a legitimate dose of opium in the presence of a marked idiosyncrasy for the drug.

A MODIFICATION OF THE TECHNIC OF FIXATION OF THE MOVABLE KIDNEY.*

GEORGE ERETY SHOEMAKER, M.D.
Gynecologist to the Presbyterian Hospital, Consulting Surgeon to the Woman's Hospital.
PHILADELPHIA.

There are many methods of suturing the kidney to its place, some good and some bad. The question of material for sutures, or that of giving these their chief hold on the capsule or on the substance of the organ; again, whether the capsule proper is to be stripped or not, how many sutures are to be placed and where, I leave out of the discussion for the present; and likewise whether not sutures, but granulation methods, are to be relied on.

The point of my communication deals chiefly with the disposition of the connective tissue and fat which surround the kidney. On making an incision through the back down on the field through which a movable kidney makes its excursions, it is noted that a considerable development of the fatty capsule always exists and that this with its connective tissue is attached definitely to the parietal wall. The outer layer of this fat does not move up and down with the kidney, but as one tears or cuts through it there are encountered more and more movable or loosely attached layers, which permit of a large range of sliding motion until the kidney itself is reached, the tissues becoming more and more definitely fixed with relation to the kidney as its own fibrous capsule is approached. A little fat and connective tissue nearest the kidney move with it up and down. The large excursus of the kidney, therefore (six, eight inches or more), is not obtained by a naked kidney sliding in a closed sac; nor is it a kidney plus fatty capsule sliding on a naked parietal wall. Its slippery mobility is due to the pulling out, overstretching and enlarging of connective tissue meshes midway within the thickness of the fatty capsule, until the tissues there slide loosely in all directions on themselves like dartos tissue.

Now some methods have aimed to fix the kidney by cutting away the fatty capsule directly and stitching the kidney to the parietes. Others involve tearing a buttonhole through the fat to the kidney and delivering the organ like a button through its fatty capsule and through the wound on the back, after which the fat is cut away as much as possible, the kidney returned and sutured. Both these methods by cutting it away fail to utilize an important natural ally, namely, the cushion of fat which is needed inside of and below the organ.

AUTHOR'S TECHNIC.

The method which I have adopted with satisfaction in a number of operations is this: The kidney is delivered endwise through a hole torn in its capsule and brought out of the wound on the back. The process of cleanly tearing off the fatty capsule from the organ around to the vessels is completed. The kidney then projects through an opening in the outer portion of the fatty capsule, while the inner portion, partly turned inside out, is brought up close to the outer by the tension on the pelvis and vessels. In order to prevent what would otherwise occur, the replacing of the kidney into its old loose bed as soon as it is put back within the wound, two chromicized catgut mattress sutures are introduced below each pole of the kidney into the fatty capsule in such a way as to close the opening or buttonhole out of which the kidney came. These sutures are not attached to the parietes. If now an attempt be made to put the kidney inside the abdomen again, it will be found that it will not go. There is no place or space for it. A space is made (most conveniently before delivering the kidney) by the fingers or a blunt curved instrument peeling off the connective tissue and fat from the muscular and fascial structures of the wall of the abdomen, especially above the wound, and into this new bed the kidney is made to go. It will now be observed that even without suturing the organ is held definitely in place and will not slide up or down as it would do were it replaced without closing the opening out of which it originally was extracted.

Sutures are now introduced. The particular method adopted by me is that of forming several downward loops of chromicized catgut passing in and out of the fibrous capsule and escaping the stroma of the organ. This was the form of loop suture which was experimentally shown by Brödel to have the greatest holding power. Care should be taken to form a bed sufficiently large back of the fat, as some pressure, possibly not harmless, would otherwise be made on the kidney in reducing it.

Avoiding the nerve trunks, the wound is closed by deep catgut and half deep wormgut, leaving a small cigarette superficial gauze drain for two days. Experience in several cases extending over more than one year has shown the method to be successful in keeping up the organ and to be free from bad consequences. Among the advantages of the method is the holding of the organ up and back by means independent of sutures and the supply of at least some support on the abdominal side.

1831 Chestnut Street.

* Read before the Medical Society of the State of Pennsylvania, Bedford Springs, Pa., Sept. 12, 1906.

OIL OF TANSY POISONING.

E. H. MUSSON, M.D.
NORBORNE, MO.

The advertisements of tansy pills and pennyroyal pills are less in evidence now than in former years, perhaps, but there still lingers among the laity a widespread belief in the abortifacient and emmenagogue properties of the substances in question.

No doubt serious poisoning from these drugs is more common than is generally suspected and it might be well to give publicity to their baneful effects, as has been done recently with methyl alcohol and acetanilid.

I wish to add the report of another case of poisoning by oil of tansy following those which appeared in THE JOURNAL, August 18 and September 22, this year.

Patient.—Mrs. E. S., aged 22, the mother of two children, the younger aged 9 months.

History.—According to the patient's statements, she suffered greatly at the menstrual periods and desired to bring on the flow four or five days before it was due, in order to recover from it in time to attend a religious meeting. At 10 p. m., September 22, she took about half a teaspoonful of oil of tansy, which had been obtained from a drugstore.

Symptoms.—A few minutes after taking it she felt a strange

sensation in the head and was seized with a convulsion, and became unconscious. I reached her at 10:45 p. m., while she was in the second convulsion. This was severe, prolonged, and epileptiform in character. The tongue was bitten and much mucus collected in the throat. After the convulsion the face was flushed, the pupils were moderately dilated, and reacted to light. The respirations were shallow, slightly irregular, and more rapid than normal. The pulse was full, regular and 110 to the minute. She was completely unconscious.

Treatment and Result.—Apomorphin, ¼ gr., and morphin sulphate, ¼ gr., were given hypodermically. Another severe convulsion soon occurred, followed by free emesis, the vomitus smelling strongly of tansy. No more convulsions occurred. As soon as swallowing was possible strong coffee was given, and at 1 a. m. consciousness began to return. Recovery was uneventful, save for great weakness, which, notwithstanding stimulative treatment, persisted for two or three days.

The desired emenagogue effect did not occur.

A CASE OF INFANTILE SCURVY.

FRANK VAN DER BOGERT, M.D.
SCHENECTADY, N. Y.

I feel that I should apologize for presenting the report of a single case of a disease which can hardly be considered one of extreme rarity; yet this case has been of especial interest to me in view of its late diagnosis, coexisting conditions and etiology.

The patient was a boy of 19 months.

Family History.—The parents were well advanced in years at the time of his birth, the father being 54 and the mother nearly 41. The mother had borne two other children, one a boy now living and apparently well at 17 years of age, the other a girl, who died at the age of 2 months. There was an interval of about 13 years between the births of the above mentioned children and that of the patient under consideration.

Personal History.—He was apparently healthy at birth. He was nursed for two or three weeks, when the nursing had to be discontinued on account of the failure of the supply of milk. He was then put on a cream and water mixture, the proportions of which I am unable to give, for about two months. After this he was given Mellin's food, prepared according to the directions on the package for infants of his age. He remained perfectly well up to the holidays of 1905, when he was about 13 months old. At this time he was circumcised by the physician who attended the mother in confinement. So far as I can learn the circumcision was done simply to relieve the local condition and for cleanliness. Very shortly thereafter the child began to fail, and apparently lost the use of his limbs. He became fearful of everyone, and there was decided general tenderness of the body surface. He continued to fail and inasmuch as the prepuce had become adherent in healing after the operation, a second operation (circumcision) was performed with a view to relieving the reflex nervous symptoms due to the local irritation.

Examination.—The fear and other nervous symptoms seemed steadily to increase, and the patient was referred to me on April 1, 1905. At this time the child was so afraid of me, screaming with fright when I entered the room, that it was almost impossible to make an examination. The skin was extremely tender, and seemed especially so about the genitals, due probably to the fact that these parts were the seat of operation. There was paralysis of the lower extremities with decided muscular atrophy. The appetite was poor and the bowels were constipated. The gums, especially in the neighborhood of the central incisors, were inflamed, swollen and ecchymotic, and bled freely at times. The mouth was tender, and this interfered with the taking of food. (This condition of the gums was present, I learn, even as early as one month before the first operation, in November, 1905).

Treatment.—After deciding on the diagnosis of infantile scurvy, I took the child off the Mellin's food, to the prolonged use of which I attributed in great part the condition, and put him on a cream and water mixture with sugar of milk, on which he steadily improved. It was difficult, however, to induce him to take the mixture in sufficient quantity, and the improvement was not rapid enough to please the family, who had great confidence in the Mellin's food. At their request I put him back on the food for one day, but immediately changed to a diet of plain cow's milk, with beef juice and orange juice. From that time on the child gained steadily. His weight increased. The condition of the gums improved, and the paralysis of the extremities was relieved, the limbs becoming normal in appearance, and the muscles less flabby.

The most interesting point in the case to me was the attributing of the origin of the nervous symptoms to reflex irritation of the foreskin.

THE USE OF A SMALL MIRROR IN STUDYING THE APEX BEAT.

ROBERT L. PITFIELD, M.D.
PHILADELPHIA.

Small mirrors have been affixed to galvanometers and the delicately moving parts of other instruments, and by means of beams of light thrown on the mirrors very fine movements may be detected and analyzed. A plate filled with mercury on which a beam of light is thrown, has been employed to detect the movements of the earth during earthquakes. By means of a small mirror pressed over the apex beat I have been able to demonstrate the movements of the apex of the heart in a case of Stokes-Adams disease. The movements were greatly amplified and it was easily possible with the beam of light to note the two kinds of impulses at the apex. In Stokes-Adams disease it has been found that the auricles and ventricles do not beat synchronously. A condition of heart block is brought about through disease of the bundle of His which conveys the contracting impulse, originating in the auricle, to the ventricle, and instead of a cardiac cycle consisting of an auricular beat and then a ventricular beat, we find that there are frequently from two to four more auricular beats than ventricular ones. The ratio often being one to two and a half or one to three and a half, so that we have an auricular pulse as an instance, of 72 to a ventricular one of 20.

Phenomena of this sort may be demonstrated by taking pulse tracings of the apex beat or of the carotid and jugular pulse combined. Such tracings in this disease show a number of minor curves followed by a full high curve, three or four times as large as the minor curves, then several more minor ones and then a large one again. The minor curves in the cardiogram are produced by the auricular contractions, the full large curves are caused by the ventricular contractions.

In order to demonstrate the phenomena in Stokes-Adams disease, I placed the patient in a dorsal position on a table near a window, and after exposing his chest to bright sunlight, I pressed a one-inch laryngeal mirror over the apex. I found each cardiac movement caused the beam of light reflected from the mirror to the wall, four feet away, to move. The ventricular beat caused the spot of light to move from four to six inches, while the minor auricular contraction caused the spot of light to move only from one and a half to two inches.

The varying length of the excursion of the light beam was most marked. By fastening bits of mirror to the bulbous jugularis under similar conditions the auricular beat is shown in this way. Any apex phenomena, irregular or galloping rhythm may be studied in the same way. This method would not have any very great use in physical diagnosis, but it seems an excellent way to demonstrate the phenomena to students.

New and Non-Official Remedies

THE FOLLOWING ARTICLES HAVE BEEN TENTATIVELY ACCEPTED BY THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR INCLUSION IN THE PROPOSED ANNUAL, "NEW AND NON-OFFICIAL REMEDIES." THEIR ACCEPTANCE HAS BEEN BASED LARGELY ON EVIDENCE SUPPLIED BY THE MANUFACTURER OR HIS AGENT, BUT TO SOME EXTENT ON INVESTIGATION MADE BY OR UNDER THE DIRECTION OF THE COUNCIL. CRITICISMS AND CORRECTIONS ARE ASKED FOR TO AID IN THE REVISION OF THE MATTER BEFORE FINAL ACCEPTANCE AND PUBLICATION IN BOOK FORM.

THE COUNCIL DESIRES PHYSICIANS TO UNDERSTAND THAT THE ACCEPTANCE OF AN ARTICLE DOES NOT NECESSARILY MEAN A RECOMMENDATION, BUT THAT SO FAR AS KNOWN IT COMPLIES WITH THE RULES ADOPTED BY THE COUNCIL.

W. A. PUCKNER, SECRETARY.

(*Continued from page 1831.*)

SUBLAMINE.

MERCURIC SULPHATE-ETHYLENEDIAMINE.

Sublamine, $3HgSO_4.8C_2H_4(NH_2)_2$, is a compound of three molecules of mercuric sulphate with eight molecules of ethylenediamine (which see).

It forms white needles, readily soluble in water and in 10 parts of glycerin, sparingly soluble in alcohol. It has an alkaline reaction; it contains about 45 per cent. of mercury. It does not precipitate albumin from its solutions.

It is incompatible with sodium chloride and should not be exposed to the air.

Actions and Uses.—Sublamine is a disinfectant, similar to mercuric chloride, over which it has the advantage of being non-irritating, more penetrating and readily soluble.

It is recommended as a substitute for mercuric chloride for hand disinfection, as well as in dermatology, gynecology, ophthalmology and otology.

Dosage.—It is used in 1:1,000 solution for skin disinfection and in 1:5,000 to 1:10,000 solutions for irrigations of the bladder, etc. It may be used in syphilis by injection into the gluteal muscles of a 3 or 4 per cent. solution.

Manufactured by Chemische Fabrik auf Actien, vorm. E. Schering, Berlin (Schering & Glatz, New York). U. S. patent No. 726,125. U. S. trademark No. 37,736.

SULPHONAL.

A name applied to Sulphonmethanum, U. S. P.

Manufactured by Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany (Continental Color & Chemical Co., New York). U. S. patent No. 391,878. (Expired).

SUPRARENAL ALKALOID.

The active alkaloid of the suprarenal (epirenal or adrenal) glands.

The alkaloid shows a slightly alkaline reaction to moistened red litmus paper. It is with difficulty soluble in cold water, more readily in hot water. The colorless aqueous solution of the alkaloid is easily oxidized on contact with the air, becoming pink, then red, and eventually brown. The alkaloid is easily soluble in acids forming salts, of which the hydrochloride is readily soluble; it is also soluble in the fixed alkalies, but not in ammonium hydroxide or in solutions of the alkaline carbonates. The following reactions are the most characteristic: The addition of ferric chloride to a solution of the alkaloid produces a beautiful emerald green color which by careful addition of caustic alkali becomes purple, and then carmine red. Strong acid prevents the reaction with ferric chloride, limiting the change of color to a dirty yellowish-green. The alkaloid reduces silver salts and gold chloride very energetically, and the liquid turns red. A drop of 1:10,000 solution, instilled into the eye, will, within a few seconds produce a pallor of the conjunctiva.

Its incompatibilities are the same as those of other alkaloids. Its solutions should be kept tightly stoppered and protected from the light.

Actions and Uses.—Suprarenal alkaloid acts peripherally on a variety of structures, probably by stimulating the sympathetic nerve endings. Its most important therapeutic actions consist in a constriction of the blood vessels, with consequent high rise of blood pressure; a stimulation of the vagus center with slowing of the heart, and a direct stimulant and tonic effect on the heart muscle, similar to digitalis. Large doses also cause glycosuria; continued administration of large doses leads to atheroma. The effect of a single dose is very fleeting. It is not irritant. The effects are seen on local application and intravenous and intramuscular injection. When given to animals, by mouth or hypodermically, moderate doses have almost no action.

Dilute watery solutions rapidly lose their strength, the deterioration being accompanied by a reddish or brownish discoloration.

The alkaloid is used mainly locally for its vasoconstrictor action, in hemorrhage, and in catarrhal and congestive conditions. It is said to cut short the asthmatic paroxysm (being used by spraying the larynx and by hypodermic injections). Intravenous injections are effective in shock and anesthesia accidents (care being taken not to give an overdose). It has also been recommended in heart disease, Addison's disease, etc., but opinions are divided as to the benefits to be expected from oral administration.

TANNIGEN.

DIACETYLTANNIN. ACIDUM TANNICUM DIACETYLICUM.

Tannigen, $C_{14}H_8(C_2H_3O)_2O_9 = C_{18}H_{14}O_{11}$, is the acetic acid ester of tannin.

It is prepared by heating tannin and acetic anhydride, in molecular proportions, in the presence of glacial acetic acid in a flask under a reflux condenser, pouring the product of the reaction into water, washing the precipitate produced with warm water, drying and powdering.

It is a light-gray, almost odorless and tasteless powder, which undergoes no change when heated alone, even to 180° C. (356° F.), but softens when heated in water at 50° C. (122° F.). It is practically insoluble in cold water, scarcely soluble in hot water, but soluble in alcohol, and also in solutions of borax, sodium phosphate, sodium carbonate, lime, etc., being reprecipitated from these solutions by acids. It is rapidly saponified by boiling sodium or potassium hydroxide solutions, or gradually in the cold, into acetic and gallic acids, while ammonia produces acetic and tannic acids.

Its aqueous solutions produce with ferric salts the blue-violet color characteristic of tannic acid. A slightly alkaline solution in sodium phosphate exhibits all the characteristics of an astringent and precipitates albumin, but these properties are destroyed by borax or more alkali.

It is incompatible with alkalies and with salts of iron; it should not be exposed to heat or moisture.

Actions and Uses.—Tannigen passes unchanged into the intestine, where it becomes effective as an astringent in contact with the alkaline juice. It is said to be free from irritant action.

It is recommended in acute diarrheal affections, such as acute intestinal catarrhs, cholera morbus, cholera infantum and dysentery; it has also been used with reported success for the diarrhea of typhoid fever and intestinal tuberculosis.

Dosage.—0.2 to 0.7 Gm. (3 to 10 grains) four times per day, dry on the tongue followed by a swallow of water; or mixed with food, avoiding warm or alkaline liquids.

Manufactured by Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany (Continental Color & Chemical Co., New York). U. S. patent No. 533,718. U. S. trademark No. 17,668.

(*To be continued.*)

Naming of Carbon Compounds.—Just as the names of basic elements end in -ium, thus sodium, potassium, calcium, and the basic group $(NH_4)'$, called ammonium, so in the naming of organic compounds the ending denotes basic compounds. It has been proposed to give this ending to the vegetable bases or alkaloids, thus morphium sulphate, atropium chlorid, etc.—*Pharm. Rev.*, August, 1906.

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SATURDAY, DECEMBER 8, 1906.

PUERPERAL FEVER AND THE MONUMENT TO SEMMELWEIS.

The work of Semmelweis in connection with the prevention of puerperal fever, a work to which thousands of mothers owe their lives and freedom from what was formerly a veritable plague, has been honored by the erection of a monument[1] at Budapest. This tribute to one who is perhaps the most renowned representative of the movement which secured the modern aseptic methods of midwifery gives occasion to review the history of this discovery and to note how singularly its growth was hindered by misapprehension and ignorance. It affords opportunity also to call attention to the advanced condition of American medicine and medical literature at a period to which we are somewhat inclined to look back as belonging to the dark ages. Great discoveries are usually the culmination of a long series of observations and theorizing which prepare the way for the discovery and appreciation of the truth and which are either lost sight of or underestimated in the award of praise to the one who makes the final announcement.[2]

During the first half of the nineteenth century two theories of the nature of puerperal fever held the thought of medical men, and, although the advocates of both theories may have been found in all countries, the miasmatic theory was widespread on the continent of Europe, while in England and America many advocates of the theory of contagion were to be found. In 1795 Gordon of Aberdeen[3] had distinctly expressed the view that the disease was infectious. In 1814 Armstrong formulated the statement that wherever puerperal fever appeared it was usually confined to the practice of a single obstetrician. The connection of puerperal fever with erysipelas, under which term the English pathologists of that day included practically all the septic diseases, was recognized by English authors during the first half of the last century. The number of communications on this subject is very large and includes a considerable number of American authors. Paley of Halifax in 1839 reported a striking series of cases in which he recognized that the contagion was carried from a case of gangrenous inflammation of the scrotum. In 1845 Blackman of Edinburgh recognized the possibility of the examining physician conveying the virus on his finger. The danger of transmission of the disease from bodies dead of septic disease was distinctly recognized in England and America as early as 1845, and the only particular in which Semmelweis made an advance on the English teaching was in emphasizing the danger of putrid matter in general without reference to its source in a previous septic case. In consequence of the ubiquity of pyogenic organisms, this idea led to safer practice, but in view of what we know of the relations of putrefaction to disease the English doctrine of specificity was more nearly right.

In consequence of the advanced state of English medical thought the theory and practice of Semmelweis received recognition and support in England at a time when little but opposition and contempt was accorded it on the continent. Methods of prevention had already been formulated, including avoidance of autopsies, thorough washing, change of clothing and abstinence from practice. Simpson, in the discussion of Arneth's paper in 1851, describing the methods used in the Vienna Hospital, stated that for years he had used cyanid of potassium as a disinfectant for the fingers.

One name in America—that of Holmes—is pre-eminent in the history of this subject. So far as dates go, he can rightly be given the priority over Semmelweis, having published his essay in 1843, but he lacked the opportunity for a demonstration of originality. His task was merely the presentation of facts that lay ready to his hand, but which he was able to weld by the hammer of his logic and the fire of his eloquence into that inimitable essay so well fitted to carry conviction and to arouse to action.

One very instructive lesson is impressed by the opposition of prominent men to this doctrine, supported by so convincing an array of facts to which they opposed nothing but negation and theory. It is to be hoped that never again will a beneficent discovery meet the reception which was accorded to both Holmes and Semmelweis for their devotion to a truth which was theoretically or practically unpalatable to the authorities who had failed to see and to apply it.

The question has been raised: Why should not America honor Holmes as Hungary has honored Semmelweis? Holmes, it is true, presented only arguments drawn from literature, while Semmelweis added the demonstration of clinical facts, showing that prevention was possible. It is not probable that Semmelweis had seen the communication of Holmes, but that was due to an undue neglect of American literature, and it is fitting that we should honor the leaders of thought as well as those who demonstrate truth by experience. Such a monument might recognize the work of his predecessors and show to the world that America is not forgetful of the honorable record of the medicine of her earlier days.

1. A picture of the monument is given in the Foreign News Department, page 1930.

2. For an account of the predecessors of Semmelweis see Wiener klin. Wochschr., Sept. 27, 1906.

3. Oliver Wendell Holmes: Essay on "Puerperal Fever as a Private Pestilence," Boston, 1855, originally printed as an article on the "Contagiousness of Puerperal Fever," in the New England Quarterly Journal, 1843. This essay contains many references to previous observations.

INSURANCE EXAMINATION FEES.

In another column[1] is printed the preliminary report of the committee appointed by the House of Delegates at the Boston session of the American Medical Association to inquire into the insurance examination fee question. The committee, after making a statement of facts, has wisely referred the matter to state and county societies for action. Thus the question as to whether a determined fight shall be made against the dictatorial policy of the insurance corporations must be decided in each state. Quite a number of state societies and many county societies have taken definite action and their members are refusing to accept the reduced fee.

It is to be hoped that each state society, at its next meeting, will face the problem fairly and squarely and advise its component county branches as to what policy they should adopt. If only a few counties in a state enter into this fight, it is not to be expected that they will be able to win out, but if all, or a great majority, of the counties act together, then success will certainly follow. That the house of delegates of each state society may discuss the matter understandingly, its members must appreciate the various phases of the problem and know the wishes of those they represent. For this reason, if for no other, each county society should discuss this question thoroughly, not only so as to advise its delegates to the state body, but to decide whether any action shall be taken before the state society meets.

While we think that a positive stand should be taken against the dictatorial policy of the insurance companies regarding examination fees, believing that the physician has at least as much right to say what his services are worth as have the insurance companies to say what they will pay for his services, nevertheless, before taking action, the matter should be well considered in all its phases. Shall there be a graded fee or shall the same charge be made for examining an applicant for $1,000 as for a $5,000 policy? If so, what shall be the minimum fee, and what for each additional thousand? These and other questions should be considered carefully. It must be remembered that this stand will mean sacrifice on the part of some; and undoubtedly it will be a long struggle. One fact must be emphasized: resolutions do not win battles. If anything is to be accomplished, the coöperation of practically all physicians in a county must be obtained; the signature of each must be secured to the agreement and, while there will be some selfish ones who think they will gain by refusing to act with their fellows, tact, perseverance and moral suasion will finally win over all who are worth winning. Harsh measures should not be adopted, and no physician should be barred from or in any way penalized regarding his membership in the county society, even if he does prefer to side with the insurance corporations rather than with his fellow members.

In some counties, especially where there is no large town, it will be comparatively easy to get every man in line. In such instances, however, the companies may be expected to secure physicians from outside the county, and for a while they will succeed in finding plenty who will be willing to do the work, but this will be expensive for the companies and they will not keep it up. Further, they will not be able to get the better class of physicians, and the others they will not want. In large cities it will be a difficult matter, for a while at least, to get all in line. This is especially true of those who are practically making a living out of insurance examinations.

The question at issue is purely a financial and commercial one. This must be remembered by those who fear that to take it up is to sacrifice the high ideals and the altruistic principles that govern the physician as an individual and the medical profession as a body. The question of life insurance examination has nothing to do with the treatment of the sick, with the relationship of the physician to his patient, nor with ethics as it relates purely to medicine and medical practice. It is simply and only a business proposition, just as much so as the employment by a syndicate of an expert mineralogist to examine a mine and report on its probable value as an investment. Insurance companies employ physicians as experts to give their opinion as to whether or not the applicant is likely to live out his expectancy; in other words, whether the issuance of a policy to the applicant will be a paying investment to the company.

Back of it all, however, and underlying the question, there is something more than dollars and cents. Combinations of men and capital are organized into companies solely for financial gain. As a business proposition, they need the services of physicians. These corporations, acting alone or in combination with other similar corporations, dictate what they will pay for these services, and the physician, acting independently and by himself, is powerless. A price is put on his services by those who want them, and he has nothing to say. He usually takes the sum offered rather than nothing.

Fundamental to it all, therefore, is the question: Shall physicians continue to act individually and humbly accept what is offered them, or shall they unite and be in a position to demand what is due them?

IMPROVEMENT IN FOOTBALL PATHOLOGY.

In the football season just closed there has been a decided improvement in the pathologic aspects of the game. Football has not yet become a nursery amusement, but at least it has not claimed as many victims as during last season. The record for 1905 was 22 deaths, with 96 serious injuries, while in 1906 the fatalities from football numbered 3, with only 54 injuries and many of these trifling. It seems that the important changes in the rules, made to eliminate many of the dangers, have been successful to a considerable degree. As there has been a growing demand for this improve-

1. Insurance Fee Department, page 1937.

ment for several years, it seems too bad that the football rules committee could not sooner have seen its way to make the changes which have proved so beneficial.

It has been claimed that changes in the game in the direction of greater safety would lead to a diminution of public interest in the sport. Apparently it was not realized that interest scarcely affords adequate compensation for the loss of a score or more of lives in a season's play. The present year's experience shows, however, that the more open game not only has not detracted from the interest of spectators, but has added to it. It must be conceded that the ball and the play have been followed with much more interest than before.

It would seem, therefore, that it only remains for the rules committee to modify the present game further in the direction already begun, and the result will be the elimination even of the sad accidents which have marred the present year's record. It must not be thought that serious injuries did not occur in addition to the three fatal accidents. Some of these were even more numerous than last year. The broken collar bones increased from seven last year to nine during the present season. There were eight broken legs this year, against six last year. Broken ankles were reported twice in each year. There were seven twisted knees in 1906, against five in 1905. All of these show that the game still has a rough character which may become dangerous and for which much can be done.

President Roosevelt is to be congratulated on this very noteworthy improvement. It was his vigorous protest and personal intervention which, more than anything else, brought the football rules committee to its senses. Football can not be made a parlor game. We fully agree with the President's remark that he has no sympathy whatever with the overwrought sentimentality which would keep a young man in cotton-wool. On the other hand, as remarked by the *Independent*, "there is still less reason for sympathy with the overwrought brutality which puts a young man in sterilized cotton." If as decided an improvement takes place in the season of 1907, there will be little room for complaint left. Surely where so much good has been accomplished there will be every encouragement still further to ameliorate conditions, and no one will welcome such an amelioration more than THE JOURNAL, which has for several years pointed out the fatalities and urged the necessity for radical changes in the rules such as have fortunately come and now need only some extension to be completed satisfactorily.

TAINTED MONEY.

Our London correspondent refers to a recent peculiar bequest to the Barnardo Homes which is likely to give the trustees or administrators some troublesome consideration—assuming, as we must, that they are upright, conscientious men. It appears that a man owning a large number of shares in two "patent-medicine" concerns bequeathed them to the Barnardo Homes under condition that they should not be sold, but should be made the foundation of a new English limited liability company devoted to the sale of the nostrums. It would require a rather extraordinary casuist to justify the acceptance of such a bequest. It is not always practicable to exclude the possibility of unworthy methods in the acquirement of money that is given for benevolent purposes and we can allow much latitude in some cases. Here, however, it is a condition that the evil measures shall be perpetuated and that the Homes shall become practically a direct partner in fraud. The *British Medical Journal* says: "Dr. Barnardo's Homes have hitherto led a perfectly blameless existence under the egis both of medicine and religion." Dr. Barnardo is understood to have been thoroughly ethical in his methods and, figuratively, would no doubt turn in his grave should his successors yield to the temptation thus put before them. There seems to us to be no question as to the course they should pursue, though they could doubtless find plenty of precedents of benevolent or even religious institutions supported by the profits of disreputable and vicious methods. The instance alluded to by our British contemporary, of the temperance advocate who was bequeathed a cellar full of wines and who escaped from his dilemma by passing on the bequest to his eventual heir, is not a good parallel. The British nobleman who destroyed the contents of his wine cellar on his conversion to temperance views made a more consistent and morally commendable precedent. The rejection of this bequest by the Barnardo administrators will be an excellent example for others to follow in such cases. In this country we have recently been having a toning up of conscience in business and political matters which we trust will have its permanent good results. A similar movement, we believe, would be an excellent thing in Great Britain, and there could hardly be a better opportunity for one of its first manifestations.

DIAGNOSIS AT SIGHT.

A correspondent sends us a circular of a work sold by subscription to physicians, which, according to its opening sentences, enables the physician to "instantly determine the underlying factor in all diseases without asking a question." Appended is a list of physicians who have bought the book and express their appreciation of its teachings. We presume that if it claimed the ability to diagnose a disease from a lock of hair sent by mail it could get an equal number of testimonials. At least one seems about as rational a possibility as the other. We do not object to physicians getting information from all sources, but one would think that sensible men would rather do it on the quiet from such a source and not send their names to be utilized by the advertiser. It would seem preferable to be considered what is called an "easy mark" by some exploiting individual (in fact, the average physician is inclined to think he is from the advertisements and prospectuses he receives) than to publish the fact over one's own signature in the exploiter's circulars. There is some excuse in biting at a tempting bait, but apparently there are some fishes that will bite a bare

hook. However, if a man wishes to advertise himself as a physician who is rendered especially joyful by information how to diagnose all kinds of diseases at sight it should not seriously concern us. It is merely a matter of taste.

CONTRACT PRACTICE.

The insurance examination question, discussed elsewhere, is related very closely to that of contract practice. At various times during the last few years we have called attention to the fact that the "battle of the clubs" of our English brethren will have to be fought in this country at some time, and that the sooner we commence the fight the easier it will be won. Gradually and surely this evil is spreading, and in some localities has already produced most disastrous conditions—conditions that are as harmful to the public as they are ruinous to the profession. If we mistake not, in another ten years there will be scarcely a community in the country in which our profession will not be feeling this blight, i. e., if something is not done to check it. It is not the legitimate contract practice that is to be feared (for there is a form of contract practice that is legitimate, as, for instance, the contract to attend injured workmen—but not in sickness nor their families—employed in a mill or factory), but the organizations that are gotten up for the purpose of buying a physician's services at wholesale and selling them at retail. There is no doubt about the viciousness of this form of contract practice, whether it be in the case of a fraternal order or connected with an organization created solely for the purpose of supplying a physician's services at a minimum fee; and this should be fought vigorously. Contract practice is one of the most serious evils immediately threatening the medical profession of this country.

IOWA AGAINST CHARLATANS.

According to a recent decision of the Supreme Court, any one who professes to treat diseases in Iowa must have had a course of medical study sufficient to justify his assuming the responsibility in matters so important to life and health. The decision was in the case of the state against J. C. Wilhite, who seemed to have more diplomas than anything else, having, it is alleged, secured one diploma by two months' study, another by a few months' correspondence course and another by a three months' course at a "neurological college." The court remarks that "no argument is required to demonstrate that his preparation was utterly inadequate and that his pretensions savored of the charlatan and impostor." The court specifically denies any intention in this decision to limit the practice of medicine to any particular system or mode of treatment. The decision simply emphasizes that the design of the state law on the subject is that "every one, before he shall undertake to prevent, cure or alleviate disease and pain as an occupation, shall have some knowledge of the nature of disease, its origin, its anatomic and physiologic features, its causative relations and the preparation and action of drugs. Experience has shown that this is necessary for the protection of the people against fraud and empiricism. No one is thereby deprived of the opportunity to exploit his 'system.' All that is exacted is that, before undertaking to do so by applying it to the functions of life, he shall be possessed of that degree of knowledge and skill required by the statute and evidenced by a certificate from the proper officers of the state." This decision, a full abstract of which appears in our Medicolegal Department this week, is an important one and will have a tendency to check the form of quackery referred to.

PHENACETIN (ACETPHENETIDIN) VS. ACETANILID.

It is interesting to trace the influence of medical fashion and similar factors on the estimation in which the various synthetic analgesics are held by the medical profession. Acetanilid, the most widely known of these agents, has met condemnation chiefly because it has been most indiscriminately employed, not only by the medical profession but also by the lay public. It was one of the first to be freed from the restrictions of the patent laws and, on account of its cheapness, rapidly rose in professional and public esteem. In consequence, however, of some fatalities and of the evil done by its indiscriminate and habitual use, it passed under the ban and phenacetin took its place to a large extent in the armamentarium of the careful physician. The extensive use of acetanilid in proprietary mixtures and popular headache powders and the fatalities following such use tended to increase its ill repute among physicians. How far the fact that phenacetin was still a patented and proprietary article has shielded it from condemnation as a toxic agent can not be stated, but undoubtedly less has been heard of its dangers than would have been the case had it stood alone without the protection which goes with proprietary articles. Phenacetin is reputed to be much safer than acetanilid, but how well founded this opinion is can not be determined until it shall have been used as extensively and as recklessly as the cheaper and better known drug. It is the opinion of pharmacologists that, except for the difference in dose needed to produce the effect, the actions of the two drugs are identical. While the toxic dose is much larger for phenacetin than for acetanilid, the amount necessary to produce the desired therapeutic effect is also proportionately larger. This being the case, caution regarding the use of phenacetin is as appropriate as in the case of acetanilid. There is reason for the legal regulation of the sale of phenacetin as well as of acetanilid. The ill repute of acetanilid has secured its mention by name in the Pure Food and Drugs Law, while phenacetin can be included only by implication as one of the derivatives of acetanilid. There has been some question whether phenacetin can be so classed. The commission appointed to draft rules and regulations governing the administration of the law decided that phenacetin belongs among the derivatives of acetanilid and that its name must appear on the labels of medicines or foods which contain it. The decision of the commission appears not to be final and the question is still undecided. It has been surmised that the manufacturers of analgesic proprietaries were about to seek to escape the odium which now attaches to acetanilid and the necessity of publishing the fact of its presence in their remedies by substituting phenacetin for it. Whether this will be extensively done remains to be seen. It is stated on good

authority that the proprietors of some nostrums heretofore containing acetanilid and advertised to the medical profession have already made this change. Thus, they think, they may be saved the disgrace of having to confess openly the real character of their mixtures. In view of the possibility of such a movement it would be much to be regretted if phenacetin should escape the operation of the law. It is to be hoped that the decision of the commission will be sustained and that the proper labeling of mixtures containing this drug will prevent its becoming as great a menace to the public health as acetanilid has been. We have used the name "phenacetin" because it is best known under this title; this name, however, is controlled; the official title given it is acetphenetidin.

Medical News

CONNECTICUT.

Professorship Endowed.—Announcement is made of a gift of $50,000 to endow a chair of pathology in Yale University, Medical Department, in memory of the late Dr. John Slade Ely of New Haven.

October Morbidity and Mortality.—During October there were reported to the State Board of Health 41 cases of measles in 13 towns; 74 cases of scarlet fever in 29 towns; one case of cerebrospinal fever; 235 cases of diphtheria in 39 towns; 64 cases of whooping cough in 15 towns; 135 cases of typhoid fever in 46 towns, and 37 cases of consumption in 19 towns. The total deaths for the month were 1,273, equivalent to an annual death rate per 1,000 of 15.2. Infectious diseases caused 525 deaths or 17.6 per cent. of the total mortality. The chief death causes were: Diseases of the nervous system, 156; consumption, 133; heart disease, 124; pneumonia, 85; accidents and violence, 77; diarrheal diseases, 71; diphtheria, 36; bronchitis, 30; typhoid fever, 25, and whooping cough, 23.

DELAWARE.

Correction in State Board Date.—The December meeting of the Delaware State Board of Examiners will be held December 11 and not December 6, as was erroneously stated in THE JOURNAL, November 24. The December meeting always begins on the second Tuesday of the month.

ILLINOIS.

Did Not Report Case.—Dr. Louise Miller, Moline, was fined $5 and costs, November 22, for violation of a health ordinance of Moline, which provides that physicians must report cases of contagious diseases within 24 hours after their discovery.

Epidemic Diseases.—Three cases of diphtheria are reported in Colfax. Schools have been closed and church services and other public meetings have been interdicted.——Diphtheria is reported to be increasing in Metamora.——The epidemic of scarlet fever at Moline is reported to be abating.

Embalming Fluid.—The Coroners' Association of Illinois, at the next session of the legislature, will enter opposition to the use of embalming fluids containing strychnin and arsenic, as the use of these drugs has, it is claimed, on many occasions, interfered with the determination of the cause of death.

Personal.—Dr. Philip H. Oyler, Mount Pulaski, has retired from practice on account of ill health and has been succeeded by Dr. Henry M. Van Hook.——Dr. Joseph H. Firestone, Freeport, returned from Europe, November 18.

Chicago.

Sir James Grant in Chicago.—Sir James Grant, Ottawa, was the guest of the Illinois St. Andrews' Society, at its sixty-first anniversary, December 1.

Communicable Diseases.—At the end of November the records of the health department showed that 13 cases of diphtheria and 579 cases of scarlet fever have been reported, generally distributed over the city.

Coroner's Cases.—During November 349 cases were investigated by the coroner's office. Of these 110 were natural deaths; 25 were due to suicide; 28 to railway accidents; 17 to asphyxiation; 14 to street-car accidents, and 10 to homicide. Of the 25 cases of suicide, 13 were the result of despondency and 4 to temporary insanity. Of the suicides 14 were due to gunshot wounds, 4 to asphyxiation, 5 to poisoning, one to hanging and one victim cut his throat.

For Charity.—The address of Senator Tillman is reported to have netted $2,000 for the benefit of the Chicago Union Hospital.——On Thanksgiving evening the members of the Royal League subscribed $2,000 toward the maintenance of the sanatorium of that organization at Black Mountain, N. C.

Mortality of the Week.—The department of health reports 571 deaths during the week ended December 1, 6 less than for the previous week and 88 more than for the corresponding week of 1905. Pneumonia led the death causes with 82; then followed consumption, with 66; heart diseases, with 62; violence (including suicide), with 45; nephritis, with 38; nervous diseases, with 27; diphtheria, with 25; cancer, with 23; acute intestinal diseases, with 22; scarlet fever, with 17, and apoplexy and bronchitis, each with 14.

Personal.—Dr. Joseph Zeisler arrived in New York from Europe, November 30, much improved in health.——Dr. Charles J. Whalen, health commissioner of Chicago, spoke before the Steel Club, Joliet, November 15, on "The Influence of Sanitation on Mortality."——Dr. Alexander Hugh Ferguson was decorated with the Order of Christ by Count de Saint Eulalia, the Portuguese consul at New York, at a complimentary dinner, November 27.——Dr. Louis L. McArthur has been chosen to represent the Illinois branch of the National Red Cross at the annual convention in Washington, D. C.

November Mortality.—During November, 1906, 2,386 deaths were reported, 53 more than for October, and 321 more than for November, 1905, the respective annual death rates per 1,000 being 14.17, 13.40 and 12.62. Pneumonia, as usual, led the death causes with 350, followed by consumption with 253; heart disease, with 226; violence (including suicide), with 176; nephritis, with 174; acute intestinal diseases, with 122, and cancer, with 110. During the month 80 deaths were reported from diphtheria, 51 from scarlet fever, 39 from typhoid fever, 18 from whooping cough, and 8 each from measles and influenza.

Lack of Medical Inspection.—The department of health ascribes the relatively high November mortality to abnormal weather conditions, a higher temperature than normal and a lower degree of sunshine than normal, together with a lack of medical school inspection. To the lack of medical school inspection is attributed the lion's share of the 113 per cent. increase in contagious diseases, and especially in diphtheria and scarlet fever. Spread of infection is largely due to the ignorance or carelessness of the parents who send their children back to school too soon after recovery from a mild attack of one of these diseases; even some physicians appear to be ignorant of the fact that children recovering from an attack of scarlet fever and apparently well, may convey the disease to others, and that nothing but a school medical inspection corps can keep all children recovering from the mild forms of these diseases from entering the schools, with a possibility of infecting others.

KENTUCKY.

Abuse of Ambulance.—The Louisville city ambulance has been forbidden to make a run unless the patient is to be brought to the city hospital. It is claimed by the board of safety that the city has been greatly imposed on by calls from outside sources for the transportation of patients when the patients have been abundantly able to pay for a private ambulance.

For Better Milk.—Vigorous prosecution of the violators of the milk ordinance has been undertaken in Louisville by the State Pure Food Department, through Mr. R. M. Allen of Lexington, its secretary. About 50 cases have been prepared for the courts under every phase of the city ordinance regulating the sale of milk, the State Board of Health law regarding the hygienic condition of the dairies, and the state pure food law. The prosecution aimed particularly at the feeding of swill to milk cows, which is a great menace to health around Louisville.——The Owensboro board of health has also taken steps to protect its citizens against impure milk, warrants having been taken out against dairymen for supplying milk deficient in butter fat and for not maintaining dairies in hygienic condition.

MARYLAND.

New Hospital.—The Hotel Norris, Easton, has been leased by the directors of the Emergency Hospital for five years. The building was occupied early this month. The staff consists of three physicians appointed by the board of directors.

Crusade Against Illegal Practitioners.—The State Board of Medical Examiners is making an effort to drive from the state all who are practicing without a certificate from the board,

and up to this time ten illegal practitioners have been indicted by the grand jury. Evidence against these individuals has been secured by the directors of the board. Among those indicted are "regulars," spiritualists, astrologers, herb doctors and one railway surgeon, who failed to pass his examination.

Baltimore.

Atkinson Estate.—The personal estate of the late Dr. Isaac Edmondson Atkinson, is valued at $75,000, of which his wife is made the sole heir during her life.

For the Extermination of Mosquitoes.—The city council has appropriated $10,000, to be used for the extermination of mosquitoes. The crusade will begin January 1, under the direction of the health department.

Janet in Baltimore.—Prof. Pierre Janet, of the University of France, has delivered three lectures in the Johns Hopkins University on "Mind and Medicine." During his stay in Baltimore he was the guest of Drs. W. S. Thayer and Lewellys F. Barker.

Donation of Books.—The Johns Hopkins Medical School has received two valuable additions to its library, aggregating 1,880 volumes, donated by Mr. William A. Marburg and Francis M. Jenks of Baltimore. One of the additions is the old Warrington Dispensary collection, of Liverpool, recommended by Professor Osler. It is said to contain works in many languages, many of which are of the sixteenth, seventeenth and eighteenth centuries and are valuable for historical reasons. The second collection is the Friedrich Ahefeld Library, from Marburg, Germany.

MASSACHUSETTS.

Beriberi in Boston.—The steamer *Foxley*, which arrived at Boston, November 23, with a number of cases of beriberi on board, has been thoroughly cleaned and fumigated and the sick men sent to the hospital on Galloupe's Island.

Law Defective.—The new state law for the inspection of meats proves to be defective in that the dealers may themselves buy and apply stamps of approval, counterfeits of the official stamps of the cattle bureau, and that no penalty is attached to such acts.

Wholesale Poisoning.—Sixty cases of gastroenteritis, with one death thus far, are the result of some food eaten at a Jewish wedding in Springfield, November 20. The autopsy showed acute inflammation of the stomach and intestines, probably caused by ptomains.

Hospital Car.—The Boston & Maine Railroad Company has put in commission, with headquarters at Boston, a new hospital car. Among the special features are easy springs, spacious bed, nurses' quarters and cabinet, kitchen, independent heating and lighting and wide folding side doors.

Infant Asylum Report.—The Massachusetts Infant Asylum reports that it cared for 68 babies during the past year. This home for babies in Jamaica Plain has developed under the lead of Dr. Charles P. Putnam into a well-equipped hospital with a medical staff, trained nurses and nursery maids.

Sentenced for Criminal Malpractice.—Mrs. Sarah A. Houghton, New Bedford, is reported to have been found guilty of criminial malpractice in the Bristol County Supreme Court, November 19, and to have been sentenced to imprisonment for five and a half years in the Woman's Prison, Sherburne.

Pasteur Boulevard.—Avenue Louis Pasteur is to be the name of the new boulevard which is to give a suitable approach to the new Harvard Medical School. The street is to run almost directly east from the Quadrangle into the Fens, and is made possible by the generosity of Major Henry L. Higginson, who will give the city land which cost him approximately $65,000. The expense to the city will not be more than $25,000.

Psycho-Therapeutics.—As suggested in a JOURNAL editorial recently, Emmanuel Church, Boston, has organized a class to study mental cures. This church also maintains a tuberculosis class. The new class will meet once a week to study, confer and consult. Dr. Richard C. Cabot spoke at the first meeting, held November 17, and affirmed that many of the ailments which afflict mankind may be benefited by psycho-therapeutics.

Diphtheria.—The schools of South Hadley Falls have been closed on account of diphtheria, which has assumed serious proportions throughout Worcester County during the past few weeks.——Diphtheria is reported to be prevalent in Waltham. Most of the cases appear between Friday and Monday, when the schools are not in session.——More than 50 cases of diphtheria have been reported in Lowell, mostly among the students of the grammar and high schools.

Concerts at Hospitals and Asylums.—Under the direction of Dr. John Dixwell of the Hospital Music Fund, concerts will begin December 2 at the Massachusetts Infant Asylum, December 9 at Cambridge Hospital, December 12 at Massachusetts Charitable Eye and Ear Infirmary, December 16 at Cambridge Home for Aged People and Avon Home for Children, December 23 at Holy Ghost Hospital for Incurables, December 25 at Massachusetts Homeopathic Hospital, and December 30 at Carney Hospital.

Bequests.—By the will of Charles Merriam of Boston many hospitals will benefit, notably those for children: Massachusetts General Hospital, $5,000; Massachusetts Charitable Eye and Ear Infirmary, $5,000; Children's Hospital, $2,500; Thomas Morgan Rotch, Jr., Memorial Hospital for Infants, $1,000; Children's Island Sanitarium, $1,000; Perkins Institution for Blind, $1,000; Industrial School for Crippled and Deformed Children, $1,000; Sunnyside Day Nursery, $1,000; Convalescent Home for Children's Hospital, $1,000; Boston Lying-in Hospital, $1,000; Free Hospital for Women, $1,000, and Sharon Sanatorium, $1,000.

Personal.—Dr. John J. Duggan, Milford, has resigned as a member of the board of education.——Dr. Francis J. Keeny has been appointed dermatologist of the Boston health department at a salary of $4,000.——Drs. Francis Shaw, Michl W. White, L. K. Raymond, Walter L. Bond, Warren D. Ruston, Herbert Cholerton and Robert F. Gibson have been appointed medical inspectors of Somerville.——Dr. Henry V. McLaughlin, Brookline, has completed 25 years of active service as a medical attendant at the St. John's Ecclesiastical Seminary, Brighton.——Dr. John P. Brown, superintendent of the Taunton Insane Hospital, has resigned, to take effect November 15. Dr. Arthur V. Goss, who has been a resident physician of the hospital for a number of years, has been appointed his successor.

Health Report.—There were reported to the Boston board of health for the 10 weeks ended November 24, 2,059 deaths, as against 1,905 for the same period last year, and equivalent to an annual death rate of 17.82 per 1,000. Four hundred and seventy cases of diphtheria were reported, with 23 deaths; 216 of scarlet fever, with 3 deaths; 433 of typhoid fever, with 41 deaths; 31 of measles, with one death; 382 of tuberculosis, with 196 deaths. There died from pneumonia 220, from whooping cough 12, from heart disease 198, from bronchitis 44, and from marasmus 67. Of these 428 were under one year old, 512 under 5, and 500 over 60 years old. The noteworthy features of the report are a decrease of a rather large number of cases of typhoid fever, from 71 in the first week to 16 in the last week, and the presence in the city of a considerable number of cases of diphtheria of mild type.

MINNESOTA.

Will Build Hospital.—T. Kloss, St. Peter, and his brother, J. Kloss, of Superior, Wis., are erecting a hospital and sanitarium in St. Peter, at a cost of about $10,000.

Contribution.—S. B. Johnson of St. Paul has contributed $12,000 toward the building of a medical training school and hospital at Manila, P. I., the hospital to be a memorial to Mrs. Johnson.

Personal.—Dr. F. A. Kiehle, Preston, sailed for Europe November 17.——Dr. Richard M. Burke has been appointed assistant at the Coleraine Hospital.——Dr. Thomas H. Wimer, Marshall, has been confined to his room for more than two weeks with malignant pustule.——Dr. Hamilton H. Wilcox, Albert Lea, has accepted the position of surgeon-in-chief of the Soldiers' Home, Hot Springs, S. D.

Circulars on Tuberculosis.—The Minnesota State Board of Health has issued a series of circulars relating to tuberculosis, the first of which is issued to physicians, the second to the patient; the third is on the care of the sick room of the tuberculous, to be distributed by physicians to tuberculous patients and others; the fourth is addressed to the general public, the fifth to those interested in schools, and the sixth gives a concise statement of methods of disinfection.

Society Meetings.—The Central Minnesota Medical Association held its annual meeting in Mora, November 21, and elected the following officers: President, Dr. Henry P. Bacon, Milaca; vice-president, Dr. William S. Titus, Mora, and secretary-treasurer, Dr. Arthur J. Lewis, Mora.——At the annual meeting of the Interurban Academy of Medicine, held in Superior, November 21, Dr. Alexander J. Braden, Duluth, was elected president; Dr. H. Jefferson O'Brien, Superior, Wis., vice-president; Dr. Edward L. Tuohy, Duluth, secretary-treasurer, and Dr. Charles H. Mason, Superior, Wis., censor.

Communicable Diseases.—Several cases of typhoid fever are reported in the Shipman Hospital.——About 200 cases of ty-

phoid fever are reported in Hibbing.——During October 150 cases of diphtheria were reported in Minneapolis, 7 of which proved fatal.——At the City Isolation Hospital, Virginia, there are 4 smallpox patients, all from the lumber camps north of the city.——Smallpox is reported to have appeared in mild form at Starbuck, where three families are quarantined.——Smallpox is reported in the lumber camp on the Drummond branch near Britton gravel pit, and at the La Faye camp near London.——St. Cloud is reported to be suffering from an epidemic of typhoid fever.——The quarantine established by the board of health at Spring Valley has been raised by the secretary of the board, and permission has been given to resume schools, church services and other gatherings.

NORTH CAROLINA.

Diphtheria.—Diphtheria is reported to be epidemic in several parts of Lenoir. The La Grange graded schools were closed by the health officer on this account last week.

Smallpox Situation.—No improvement is reported in the smallpox situation in Wake County. More than forty cases are said to be under treatment in the pesthouse and the disease is not confined as is usually the case, to negroes.

Medical Members of the Legislature.—As a result of the recent election, the state legislature shows in its membership the following medical men: Drs. James W. McNeil, Hope Mill, Cumberland County; Mark B. Pitt, Old Sparta, Edgecomb County; James R. Gordon, Jamestown, Guilford County, and J. M. Chandler, Dillsboro, Jackson County.

Personal.—Dr. Alice E. Johnson, Southern Pines, has moved to Asheville.——Dr. R. DuVal Jones, New Bern, has been commissioned assistant surgeon in the Naval Reserve of North Carolina.——Dr. Charles L. Minor, Asheville, has returned from Chicago.——Dr. Willard P. Whittington, Asheville, is spending a few weeks in Rochester, Minn.——Dr. George G. Thomas, Wilmington, chief surgeon of the Atlantic Coast Lines, is critically ill at his home with pneumonia.

Councilor District Meeting.—Pursuant to the call of Dr. James A. Burroughs, councilor for the district, a meeting of the Tenth District Medical Society was held at Asheville, November 5. A constitution and by-laws was adopted and the following officers were elected: President, Dr. James A. Burroughs, Ashville; vice-presidents, Drs. J. Howell Way, Waynesville; William R. Kirk, Hendersonville and R. J. Orr, Andrews, and secretary, Dr. Gaillard S. Tennent, Asheville. The next meeting will be held in Asheville, April 17, 1907. Dr. Thomas E. Anderson, Statesville, councilor for the ninth district, was present at the meeting. In the evening a joint session with the Buncombe County Medical Society was held, after which both societies were entertained at a banquet at the home of Dr. Burroughs.

NEW YORK.

Sanitarium Name Changed.—The Loomis Sanitarium for Consumptives has changed its name and hereafter will be known as the Loomis Sanitarium.

Centennial of Society.—The Medical Society of the County of Herkimer celebrated the one hundredth year of its incorporation November 20, at Herkimer, with a meeting and banquet presided over by Dr. Lucien L. Brainerd, Little Falls, as toastmaster.

Railway Surgeons Meet.—The annual meeting of the New York and New England Association of Railway Surgeons was held at the Academy of Medicine November 14. Dr. H. T. Dana, Cortland, was elected president; Dr. George Chaffee, Brooklyn, secretary and Dr. James K. Stockwell, Oswego, treasurer.

Medical Society Commends Candidate.—The Physicians Association of the city of Oswego, at a special meeting October 26, passed resolutions approving the action of the Hon. T. D. Lewis, candidate for state treasurer, in opposing a bill which tended to lower the standard of medical education introduced in the state legislature, and pledging itself to further the election of Assemblyman Lewis for state senator.

Milkmen Protest.—The milkmen of Rochester, through their official organization, have asked that the enforcement of the milk ordinances be transferred from the health officer to the commissioner of public safety. This criticism of Dr. George W. Goller, the health officer, should be considered a compliment, as the records show that during the last nine years 1,000 children under five years of age, died during the months of July and August, most of whom undoubtedly were victims of contaminated or impure milk. During the nine years previous to that period, more than 2,000 children under five years of age, died. This shows a saving of one thousand lives since the licensing and the regulation of the milk business has been in the hands of the milk bureau.

Personal.—Dr. Archer D. Babcock, Syracuse, has been appointed a member of the Board of Managers of the State Custodial Asylum, Rome.——Dr. David A. Morrison, Buffalo, has been elected president of Lincoln Hospital, in that city.——Dr. S. L. Higgins, assistant surgeon at the State Soldier's Home Hospital, Bath, has resigned to enter the medical department of the United States Navy.——Dr. Earl G. Danser, Buffalo, medical examiner, is seriously ill from septicemia, due to an autopsy wound. ——Dr. and Mrs. Theodore M. Leonard, Buffalo, sailed for Europe, November 27.——Dr. Christopher Patterson, for more than half a century a practitioner of Avoca, celebrated his eighty-ninth birthday anniversary, November 22.——Dr. James A. Lewis, West Seneca, who has been seriously ill with pneumonia, is reported to be convalescent.

New York City.

Hospital Opening.—The Woman's Hospital in the State of New York was formally opened December 5 and 6. This institution is located at 109th St. and Amsterdam Avenue.

Pneumonia Increasing.—The Bureau of Vital Statistics report that deaths from pneumonia increased from 96 in the week ended November 17 to 146 for the week ended November 24.

New Hospital.—The Jewish Hospital, Brooklyn, will be dedicated December 9 and opened the following day for reception of patients. The hospital represents an outlay of about $350,000. Dr. Jacob Fuhs will be physician-in-chief and Dr. Beekman Delatour, surgeon-in-chief.

Physicians Released.—Drs. Fred A. Deal and James H. Dunseith, arrested in connection with the death of Mrs. Jennie Garty, who died under ether during an operation, were exonerated October 23, by the coroner's jury which agreed that the woman's death could not have been foreseen or prevented.

Resolutions Regarding Dr. Otis.—At a joint meeting of the faculty of the New York School of Clinical Medicine and the trustees of the West Side German Dispensary, October 31, resolutions were adopted setting forth the loss sustained by these institutions in the death of Dr. William K. Otis and tendering sympathy to his bereaved family.

Contagious Diseases.—There were reported to the Sanitary bureau for the week ended November 24, 307 cases of tuberculosis with 158 deaths; 298 cases of diphtheria with 43 deaths; 119 cases of scarlet fever with 7 deaths; 115 cases of typhoid fever with 20 deaths; 112 cases of measles with 5 deaths; 86 cases of whooping cough with 4 deaths; 9 cases of cerebrospinal meningitis with 14 deaths; 79 cases of varicella and 2 cases of smallpox, a total of 1,127 cases and 251 deaths.

Personal.—Dr. William J. O'Sullivan, assistant corporation counsel for three years, has resigned.——The following have been appointed to the house staff of the German Hospital in place of the staff resigned November 13. Dr. W. N. Adkins, house surgeon; Dr. A. C. Holzmann, assistant surgeon and ambulance physician; Dr. M. B. Helperin, house physician and Dr. A. E. Baker, assistant house physician.——Dr. Walter Lester Carr, president of the New York County Medical Society, has been ill with typhoid fever for the past five weeks but is now convalescing.——Dr. and Mrs. Edward K. Dunham sailed for Naples on the *Cedric* November 29.——Dr. and Mrs. D. G. Campbell sailed on the *Carpathia* for the Mediterranean, November 29.

Special Society Meeting.—A special meeting of the New York Neurological Society was held on Nov. 28 at the Academy of Medicine, on which occasion Dr. H. S. Frenkel of Heiden, Switzerland, read a paper on "The Mechanical Treatment of Nervous Diseases," and Prof. Pierre Janet of Paris made an address in French on "Disturbances of Vision in Hysterical Patients, Produced by Exaggeration of Binocular Association." Dr. Frenkel concluded that there was danger lest the optimistic ideas, at least of European physicians in regard to this new method of treatment, might lead neurologists aside from the ways that were successfully pursued by internal medicine, and which may bring us to a knowledge of the course of disease, and thus to a causal instead of symptomatic treatment. Neurology must not be contented with dazzling instillations of mechanical and electrical appliances for symptomatic treatment, but must take an important part in the research of the causes of the diseases with which it has to deal.

OHIO.

Hospital Approved.—The Ministerial Association of Cleveland, at Berea, November 1, endorsed the decision of the Northern Ohio Conference to establish a Methodist Hospital in Cleveland.

PENNSYLVANIA.

Quarantine Physicians.—Dr. Henry Horning has resigned as state quarantine physician at the Marcus Hook station, to take effect December 1. Dr. Joseph L. McCool will perform the duties of quarantine physician until Dr. Horning's successor is appointed.

Vaccination Rules.—Dr. Samuel G. Dixon, state health commissioner, in a statement regarding the state vaccination law, said that after three unsuccessful attempts to vaccinate a child, the pupil shall be permitted to attend the public schools. The question of the failure of repeated attempts of vaccination of school children was placed by the Supreme Court in the hands of the State Bureau of Health for decision, and the above course has been adopted. Considering the subject further, Dr. Dixon said:

> When the cases that we received inquiry about were within the limits of a borough or city having a board of health of its own, we suggested that after two unsuccessful attempts to vaccinate a child the third attempt be made by or in the presence of the physician of the board of health. If this attempt failed, then the physician of the board, acting in his official capacity, should authorise the admission of the child.
>
> Taking advantage of the spirit of this part of the Supreme Court's opinion, we have also endeavored to deal with the cases of children where there was reason to believe that the child's physical condition did not make vaccination at the present time advisable. The city and borough health boards can act in such cases. Where there are no health boards the county medical inspectors are clothed with authority.

Personal.—Dr. Otto T. Freer, Chicago, was the guest of honor at a luncheon November 27, given by Dr. Chevalier Jackson, Pittsburg, after which Dr. Freer held a clinic in the Pittsburg Eye and Ear Hospital, demonstrating the submucous resection of deflection of the nasal septum.——Dr. Howard F. Pyfer, Norristown, sailed on the *Caronia* for Liverpool, December 1.——Dr. Francis P. Moylan, Scranton, is suffering from an infected wound of the hand.——Dr. John H. Vastine, Shamokin, was thrown from his buggy in a runaway accident, November 20, breaking his leg at the ankle.——Dr. Merton E. Marvin, Luzerne, was the victim of a gunshot accident, November 22, which may result in the loss of one of his eyes.——Dr. Harry W. Tittle, New Florence, fractured his left leg in a fall from his horse, November 21.——Dr. R. Bruce Gamble, Meadville, is in Pittsburg, taking the Pasteur treatment for suspected rabies.——Dr. Fuller Hogsett, Allegheny, who has been ill with typhoid fever, is reported to be convalescent.——Dr. William J. Rush, Allentown, was struck by a trolley car, November 4, and sustained severe contusions of the legs and face.——Dr. Charles E. Born, Johnstown, is ill with pneumonia.——Dr. Frank Keagy, Altoona, who has been seriously ill at Atlantic City, is reported to be convalescent.——Dr. Cornelius Bartholomew, Allentown, was attacked by a burglar in his office and painfully injured, November 28.

Philadelphia.

Milk Station Removed.—The Restoration distributing station of the Philadelphia Modified Milk Society has been removed to the Woman's Hospital, 2157 North College Avenue. It will now be known as the Woman's Hospital station.

Personal.—Dr. William J. Mayo of Rochester, Minn., delivered the Mütter lecture on surgical pathology before the College of Physicians of this city, December 4. His subject was, "The Principles Underlying Surgery of the Stomach and Associated Viscera." Dr. Mayo was entertained at dinner at the Rittenhouse Club by Dr. John H. Musser.——Dr. A. M. Porteous sailed for Europe, November 26.

Hospital Donations.—November 29, Thanksgiving Day, was observed as the annual donation day by many hospitals throughout the city. At the German Hospital the value of the donation in cash and goods reached the highest mark. At St. Agnes' Hospital the clothing, provisions and money donated was very gratifying to the Sisters of the Order of St. Francis, who conduct the institution. They received $2,129 in donations and $952 was realized by the Ladies' Coöperative Guild of the hospital. The Jefferson Maternity Hospital was also bountifully favored on its annual donation day and received a substantial supply of groceries, clothing and linen, and several hundred dollars in cash.

Health Report.—The total number of deaths reported for the week ended December 1 aggregated 446. This is a decrease of 76 from the number reported in the previous week and a decrease of 17 from that reported in the corresponding week of last year. The principal causes of death were: Typhoid fever, 19; measles, 3; scarlet fever, 3; pertussis, 3; diphtheria, 9; consumption, 52; cancer, 19; apoplexy, 15; heart disease, 46; acute respiratory disease, 66; enteritis, 19; hepatic cirrhosis, 7; appendicitis, 4; Bright's disease, 54; accidents, 22, and marasmus, 7. There were 287 cases of contagious disease reported, with 30 deaths, as compared with 323 cases and 37 deaths reported in the preceding week.

Typhoid and Filtered Water.—Typhoid fever, while showing a general increase throughout the city during the past month, has increased so greatly in West Philadelphia as to give the health officials concern as to the origin of infection. Since November 1, 47 new cases of typhoid fever have been reported from West Philadelphia, which, according to the filtration bureau's records, has been using filtered water exclusively since November 5. The bureau of health's reports show that coincident with the extension of the filtered water area in West Philadelphia came the increase of typhoid fever. Within the filtered water area, which has a population of 41,000, 15 cases of typhoid fever were reported last year. Within the same district between January 1 and April 25 last, 8 cases were reported. On April 15 filtered water was extended so as to increase the population furnished with filtered water from the Belmont station to about 81,000. The number of typhoid cases reported in the enlarged filtered water district since that time is as follows: To the end of April, 6 cases; May, 14; June, 18; July, 18; August, 13; September, 24; October, 13, or 106 cases in a population of 81,000 in six and one-half months, as compared with 15 cases in a population of 41,000 in 12 months. An investigation will be made by the health authorities to determine the origin of the infection. Director Coplin believes that the increase in typhoid fever in this district may be due to the use of unfiltered water prior to the first week in November, when the general supply to the entire district began. Dr. Abbot, chief of the health bureau, also has the same belief. Complaints of imperfect drainage in the district have been investigated, but no relationship to the prevalence of the disease was established. The same result was reached in the investigation of the milk supply.

WASHINGTON.

War on Tuberculosis.—The Washington Association for the Prevention and Relief of Tuberculosis was organized in Spokane, September 12, with the following objects:

> Dissemination of knowledge concerning the causes, treatment and prevention of tuberculosis.
>
> Investigation of the prevalence of tuberculosis in Washington and the collecting and publishing of useful information.
>
> Securing of proper legislation for the relief and prevention of tuberculosis.
>
> Coöperation with the public authorities (state and local boards of health), the National Association for the Study and prevention of Tuberculosis, medical societies and other organizations in approved measures adopted for the prevention of the disease.
>
> Promotion of the organization and work of local societies in all parts of Washington.
>
> Encouragement of adequate provision for consumptives by the establishment of sanatoria, hospitals and otherwise.
>
> In dealing with the problem of tuberculosis, medical science can not combat alone this terrible scourge. All forces—economic, legislative, sociological, humanitarian—should be enlisted in this crusade and it is the purpose of the newly-formed association to embody and crystallize all possible forms of endeavor in this movement against tuberculosis.

The medical officers of the association are: President, Dr. Clarence A. Smith, Seattle; vice-presidents, Drs. Frank H. Luce, Davenport, Elmer F. Heg, Seattle, and Wilson Johnston, Colfax, and secretary, Dr. William R. M. Kellogg, Seattle.

WISCONSIN.

Personal.—Dr. John C. Boyle, assistant physician at the Milwaukee County Insane Hospital, Wauwautosa, has resigned.——Dr. L. Phillipe Gaillardet, Ingram, has been elected coroner of Rusk County.

District Society Meeting.—The third annual meeting of the Tenth District Medical Society was held in Eau Claire, November 22. Dr. E. S. Hayes, Eau Claire, was elected president, and Dr. Eugene L. Boothby, Hammond, secretary.

Smallpox.—Camps Nos. 4 and 10 of the Foster-Latimer camp, near Melen, have been placed under strict quarantine on account of 9 cases of smallpox which have developed there. The disease is said to have been prevalent for months.

Practiced Without License.—Dr. Jacob Garnstein, Milwaukee, is reported to have been found guilty of practicing medicine without a license and of using the title of "Doctor" illegally. The sentence against him was suspended on payment of costs.

Physician Exonerated.—In the case of Dr. A. Mueller, Milwaukee, charged with malpractice in an attempt to remove a collar button from the esophagus of Bernard Fairman, the jury exonerated Dr. Mueller and said that all proper care had been used in the operation.

Health of the State.—The secretary of the State Board of Health in his report for the third quarter of 1906 says that 192 cases only of tuberculosis were reported to the office in the quarter. He believes that this indicates laxity on the part of physicians in reporting to the local health officer. During the period 202 cases of diphtheria were reported, with 17 deaths; 189 cases of typhoid fever occurred in 35 localities, with 19 deaths, and 132 cases of smallpox. Of the total deaths for the quarter 1,108 were males and 850 females. Heart disease and dropsy caused 270 deaths; consumption, 210; pneumonia, 199; senile debility, 195; diseases of the nervous system, 114, and cancer, 99. The death rate for the quarter was equivalent to an anual death rate per 1,000 of 12.71, which compares favorably with the death rate for the corresponding quarter of 1905, which was 13.2 and the rate for the first quarter of 1906, which was 14.2.

TEXAS.

Epileptic Colony Report.—The report of the State Epileptic Colony at Abilene, made by Dr. John Preston, superintendent, shows that at the opening of the year there was a total of 239 patients in the institution, 137 males and 198 females; during the year there were admitted 89 patients, 63 males and 26 females; there were discharged improved, 14 males and 4 females, and unimproved, 15 males and 2 females, a total of 35; during the year 14 males and 2 females died, a total of 16, and on August 31 there were remaining in the colony, 135 males and 108 females, a total of 243, or an increase of 8 over the preceding year. Dr. Preston recommends, as there are 350 patients on the waiting list, for the accommodation of these and more room for others who will apply, that at least six cottages should be provided, which can be built and equipped for $13,000.

GENERAL.

Sanatorium for Navy.—It is reported that a naval sanatorium for the treatment of tuberculosis is to be established on the old military reservation at Fort Lyon, Colorado. The institution will be conducted on the same lines as the Army Hospital at Fort Bayard, N. M.

The Cuban Yellow Fever Situation.—The report by telegraph concerning yellow fever in Cuba during the week ended December 3 shows that there were four cases in Havana and seven in the provinces, a total of eleven, with two deaths.

LONDON LETTER.

(From Our Regular Correspondent.)

London, Nov. 17, 1906.

Standards of Preliminary Education.

The annual report of the Royal College of Surgeons contains several matters of interest. In conjunction with the Royal College of Physicians the subject of the medical curriculum has been considered and a joint committee appointed to report on the following: 1, To treat chemistry, physics and biology as subjects of preliminary education and to require that an examination in them should be passed before the recognition of the commencement of medical studies; 2, to adopt a first year's curriculum of professional study from the date of passing a preliminary science examination. With regard to these questions the committee was unanimously of opinion: 1, That it is undesirable to treat chemistry, physics and biology as subjects of preliminary education; 2, that it is undesirable to require an examination to be passed in chemistry, physics and biology before the recognition of the commencement of medical studies; and 3, that it is therefore undesirable that the Royal Colleges should approach the universities and other examining bodies with a view to adopting a five years' curriculum of professional study from the date of passing the preliminary science examination. For the first time there appears in the calendar a succinct account of the college endowments, beginning with the Hunterian oration which dates from 1813. In that year Dr. Mathew Baillie and Sir Everard Home, executors of John Hunter, desiring of showing "a lasting respect to the memory of the late Mr. John Hunter" gave to the college 1,664 pounds 3 per cent. consolidated bank annuities "for the endowment of an annual oration to be called the Hunterian oration and to be delivered in the theater of the college on February 14, the birthday of John Hunter by the master or one of the governors for the time being, or such other member of the court of assistants as should be appointed by the master and governors or any two of them, such oration to be expressive of the merits in comparative anatomy, physiology and surgery, not only of John Hunter but also of such persons as should be from time to time deceased whose labors have contributed to the improvement or extension of surgical science." In 1853, after consultation with the representatives of the founders of the trust, it was decided that the oration should in future be delivered biennially instead of annually.

The Declining Birth Rate.

In my letter of August 18 I stated that the birth rate in the second quarter of this year was only in the proportion of 27.5 annually—the lowest rate recorded in any second quarter since civil registration was established. The registrar general now reports a still lower rate, the lowest in any third quarter since civil registration was established. The rate for the quarter was only in the proportion of 26.9 annually. The mean rate in the ten preceding third quarters was 26.8. Curiously, the agricultural districts supply the smallest increase in the population and the manufacturing centers the greatest. The death rate for the quarter is also low—14.9 against an average of 16.2 in the preceding ten third quarters. Infant mortality shows a satisfactory decline: it was only 176 per 100 against an average of 187 in the preceding ten quarters. London's birth rate is 26.5, and compares interestingly with that of Paris, 18.2; of Brussels, 18.1 (the two lowest of the world's capitals); of Trieste, 34.5; of Breslau, 32.4; and of New York, 28.

Profits on Pills for Charity.

Mr. Fullard of Ontario, one of the proprietors of Dr. Williams' pink pills for pale people and bile beans, left an estate valued at $6,500,000. Mr. Fullard has bequeathed to Barnardo's Homes 25 per cent. of the shares of the business, which is to be converted into a joint stock company. It will be gathered from this that the gift has a string to it, for if it be accepted the management of Barnardo's Homes will be in the position of coöperating in the sale of medicines which have been characterized by an English judge as boomed by fraud and impudence. It may here be noted that the British people seem to be becoming almost as voracious of "patent medicines" and nostrums of every description as are their American cousins, and as easily gulled, too, by lying advertisements.

Shop Girls and the Factory Acts.

An important order under the factory acts has been issued. The prohibition concerning the employment of persons under the age of 16 without a certificate of fitness is extended to various classes of workshops, among which is any workshop in which the following processes are carried on: Making, altering, ornamenting, finishing or repairing of wearing apparel by the aid of treadle sewing machines. This order thus includes most, if not all, tailoring, millinery and drapery establishments. Hitherto it has been found in many manufacturing cities that girls who are rejected by the health officers for physical unfitness when they attempt to enter mills promptly secure situations in milliners' or drapers' shops.

FOREIGN.

Preventive Circulars Distributed in Germany.—The German Society for Repression of Venereal Diseases has supplied 1,450 workingmen's sickness insurance societies with copies of its warning circulars for men and for women, to be distributed among their more than 3,000,000 policy-holders. Owing to red tape objections to paying for the circulars by the insurance companies, the preventive society has paid the total expense connected with publication and distribution of the circulars, amounting to more than $2,000. Translations of the circulars were published in The Journal on page 1128 of volume XLVI, 1906.

Cancer Research in France.—Professor Poirier recently addressed the Académie de Médecine at Paris on the curability of cancer in general and especially of cancer of the tongue. He expatiated on the importance of institutions for the special study and treatment of cancer, and related what is being done in other lands in this line. He was given a check for $20,000 at once by Dr. Henri de Rothschild, and others have contributed since, as a nucleus for a cancer research institute. A ways and means committee was appointed and it is proposed to bleed the people by establishing a lottery to raise further funds.

International Medical Association of Mexico.—The International Medical Association of Mexico held its annual meeting in Mexico City, November 14 to 17, which is reported to have been a success in every way. The following officers were elected: President, Dr. H. V. Jackson, Durango; vice-presidents, Drs. S. Ulfelder, Mexico, and G. B. Hyde, Silao; secretary and treasurer, Dr. J. S. Steele, Monterey; censors, Drs. L. H. Barry, Durango; C. E. Husk, Santa Barbara, and A. H. Whatley, Parrall and editors of the *Annual*, Drs. R. D. Robinson and W. R. Jamieson, both of Torreon. The next meeting will be held in Monterey, November, 1907.

Cause of Mediterranean Fever at Malta.—The authorities at the naval dockyard at Malta have issued a circular calling attention to the researches of the Mediterranean fever commission. It has been found that the milk of both cows and goats contains the fever germ in large numbers. People are advised to abstain from the use of fresh milk and to use the canned variety. The military authorities recently forbade the introduction of fresh milk into barracks, with the result that there was a remarkable diminution in the number of fever cases among the troops. A similar result has been obtained in the naval hospital, where goat's milk has been entirely tabooed.

The International Congress for Laryngology and Rhinology in Memory of Tuerck and Czermak.—The fiftieth anniversary of the adoption of the laryngoscope in the clinic and its modification for the purpose is to be celebrated by an international congress and exhibition devoted to laryngology and rhinology, as already announced in these columns. The congress is to be held at Vienna, April 21 to 25, 1908, and Professor von Schrötter will preside. Prof. M. Grossmann, Garnisongasse 10, Vienna ix, is the general secretary. A medal, with portraits of Tuerck and Czermak, will be presented to each member of the congress and can be bought by outsiders for $4. The fee for membership in the congress is $5. English, French and German are the official languages of the congress, and the first official program will be made up from communications received before Dec. 31, 1907.

Personal.—Dr. G. H. F. Nuttal, F.R.S., of Christ College, Cambridge University, has been elected Quick professor of biology in that university. Professor Nuttal, who is an American, has had a very distinguished career. He was born in San Francisco and educated in England, France, Switzerland, the United States and Germany, and holds degrees from the universities of California, Göttingen and Cambridge. Dr. Nuttal was late associate in hygiene in Johns Hopkins University, Baltimore, and held a somewhat similar position in Berlin University. In last Easter term he was appointed to the readership of hygiene in Cambridge University, which he has now resigned. To him has been chiefly due the institution of the Cambridge University examination for the diploma in tropical medicine and hygiene. Dr. Nuttal has published numerous papers relating to original experimental research in bacteriology, parasitology, hygiene and physiology, which have appeared in German, British and American journals. He is also the editor of the *British Journal of Hygiene*.

Housing the Workman in London.—The most difficult problem with which philanthropists and sanitarians in London have to deal is that of the housing of the working poor. Where people are massed together like cattle the results can not but be disastrous, whether regarded from a moral, mental or physical standpoint. The condition of the London poor, so far as house accommodation is concerned, is, on the whole, most unsatisfactory, although in recent years much progress has been made toward a better state of affairs. The London county council has just issued a report showing what is being done by local authorities and others to provide housing accommodation for working classes in Greater London. From this return it would seem that not only has house accommodation greatly increased, but also that this increase is keeping pace with the increase of population. Immense areas covered with insanitary dwellings have been cleared within the past few years, and buildings constructed according to the latest modern standards have been erected for the workingmen of London.

Monument for Servetus.—Miguel Serveto, physician and theologian, 1509-1553, is often mentioned first in the history of the discovery of the circulation of the blood, as he suggested its possibility and argued in favor of its probability nearly a century before Harvey established the truth of the doctrine. Servetus wrote a number of treatises on medicine and theology, attacking settled traditions in both sciences. His attacks on Galen's theories of medicine had no serious results, but his theological works branded him as a heretic, and he was sentenced to be burnt at the stake both by the Roman Catholic inquisition and by the Fathers of the Protestant Church at Geneva. He was burnt in effigy at Vienne, Dauphiné, in France, where he had long resided, and finally fell into the hands of Calvin at Geneva, where his sentence was carried out, although Calvin tried in vain to substitute decapitation for the burning at the stake. Memorials have already been erected to him at Geneva and at Paris, and the town of Vienne is now soliciting subscriptions to erect a monument to his memory in the public square. We learn that subscriptions are being received from many countries. The committee in charge of the fund includes M. Berthélot of Paris, the deans of all the French universities, and others.

Quacks Convicted and Sentenced in Germany.—Mainly by the efforts of the various local medical societies, 48 irregulars in Germany were condemned to imprisonment or fined during the fiscal year 1905-1906. The local medical society, usually acting according to general instructions from the National Antiquackery Society, called the attention of the police to the way in which the regulations were being defied, and secured evidence as to the previous record of the irregulars. The official monthly organ of the Antiquackery Society, *Hygienische Blätter*, tabulates the details of the 48 cases with name, specialty, former occupation and former sentences, method of treatment, accusation, date and general remarks. No. 16 was a magnetopath and hypnotist, formerly a roofer, who had served a term in the penitentiary; he was condemned to another term of a year and a half on account of immoral practices. No. 24 was another magnetopath with a record of numerous previous sentences. He was condemned to six months' imprisonment for a death resulting from over-confidence in his shirt of cotton batting and magnetized water. In his diary was written: "As long as the fools have not vanished from the face of the earth, a shrewd man can always make a good living." No. 12 was a naturopath who treated a corneal ulcer with almond oil until the sight of the eye was lost. His penalty was a year's imprisonment, his tenth sentence. Only 7 of the total number of irregulars convicted were in Berlin, the rest being scattered through 27 towns in all parts of Germany. The severest penalty was imposed at Aachen, where a former scissors grinder, who had assumed a title and made a specialty of female affections, treating them with worthless drugs, was condemned to 18 months in prison, three and a half years in the penitentiary and a fine of $250. A former stonecutter, who treated mammary cancer with drugs internally was condemned at Dresden to 4 months' imprisonment. A naturopath at Hagen was condemned to imprisonment for 5 months for fraudulent practices. He treated cancer, lupus, etc., with a special salve. His appeal to a higher court resulted in a sentence of 1 month's imprisonment and a fine of $250. No. 32 was a homeopath, who was condemned to a year and a half in prison on account of criminal abortion. No. 44 was a naturopath, condemned to 1 month in prison for a "death from negligence," on account of a child who had died of diphtheria under his treatment with bath and gargles alone. Heroin treated with homeopathy was also responsible for another death, and the homeopath was condemned to 3 months' imprisonment. A former factory hand treated patients "according to the seventh book of Moses," for a consideration of $10. In cases of cancer of the tongue he applied a living crab to the region, cancer being the Latin term for crab, and the German word *Krebs*, meaning both cancer and crab. He was sentenced to imprisonment for two and a half weeks. A woman faith curist who treated mammary cancer with drugs and prayer, for a consideration of $36, was sentenced at Munich to one month in prison for fraudulent practices. The widespread activity in trying to dislodge the irregulars is an encouraging sign of the times in Germany. No mention is made in this list of the numerous suits brought against quacks in which they managed to escape condemnation on some legal technicality or from lack of convincing proof. The German courts as a rule seem to be inclined to be remarkably lenient to the irregulars unless overwhelming testimony is produced. The German Antiquackery Society urges all interested in protecting the public against quackism to be on the alert to collect data, both general and individual, that can be used in the campaign against quackery, especially the past records of charlatans.

Monument to Semmelweis.—The celebration in Budapest, Sept. 30, 1906, when the monument to Ignatz P. Semmelweis was unveiled, was mentioned recently in these columns, and is referred to editorially in this issue. This memorial to one of Hungary's greatest sons shows the mother saved to bring up

her child by his discovery in regard to puerperal fever and its prophylaxis (see illustration). The local medical society held a gala meeting the night before, with biographical sketches of Semmelweis. The unveiling of the memorial was preceded by a public meeting in the halls of the university, where addresses were made by representatives from various medical societies and universities at home and abroad, B. Schultze of Jena speaking in the name of the German Gynecologic Association; Chrobak, of the Vienna medical faculty; Schauta, of the Vienna gynecologic clinic; Fibiger as representative of the Copenhagen medical faculty; Pestalozzi in the same capacity from Rome, and Guzzoni from Messina. Herff claimed for Switzerland that the conception as to the true nature of puerperal fever was first accepted and acted on in that country. He appeared as the official delegate from the hospitals of Berne, Geneva, Lausanne, Zurich and Basle, and of the national medical association, and Albert Duka of London brought the greetings of the profession in Great Britain. After the meeting the company proceeded to the house where Semmelweis was born, on which a tablet was placed. The *Wiener klin. Rundschau*

The Monument to Semmelweis at Budapest.

for October 21 gives the main points of the addresses with an illustration of the memorial, here reproduced. It seems that in the two maternity wards in the Vienna public hospital, where Semmelweis was associate physician, medical students were trained in obstetrics in the first ward and only midwives in the second. Patients admitted to the hospital were sent alternately to the first or second ward. The mortality in the first ward was always three to five times that in the second. The death of one of the professors from cadaveric infection gave the clue that solved this problem of the deadliness of the first ward over which Semmelweis had been puzzling for years. His announcements between 1845 and 1855 in regard to the etiology of puerperal fever met with rabid opposition from most of his colleagues, and this embittered his life and his reason finally became unsettled. He was taken to an insane asylum in 1865, where he died in a few days from pyemia resulting from injury of a finger. His widow, children and a sister still survive.

Pharmacology

SULPHO-LYTHIN.

Report of the Council on Pharmacy and Chemistry of the American Medical Association.

The following report was submitted to the Council by the subcommittee which examined Sulpho-Lythin:

To the Council on Pharmacy and Chemistry:—The following report on Sulpho-Lythin is herewith submitted:

Sulpho-Lythin is sold by the Laine Chemical Company, New York. In the literature sent to physicians it is said: "This product, the sulpho-phosphite of sodium and lithium (non-effervescent) is entirely new and is unique in its action."

Chemical analysis of a specimen of Sulpho-Lythin purchased in the open market, indicated its composition to be:

Sodium sulphate, anhydrous	10.51
Disodium hydrogen phosphate, anhydrous	58.67
Sodium thiosulphate, anhydrous	20.78
Sodium chlorid	5.98
Lithium, as citrate	3.13
Sulphur, free	0.15
Moisture	1.83
Loss	1.35

The examination, therefore, shows that Sulpho-Lythin is a mixture consisting mainly of sodium sulphate, sodium phosphate and sodium thiosulphate. The statement that it is a "sulpho-phosphite of sodium and lithium," therefore, is not correct, and a statement that "it is entirely new and is unique in its action" appears unwarranted and misleading. It is, therefore, recommended that the preparation be refused recognition. It is also recommended that an article be prepared for publication calling attention to the exaggerated claims made for Sulpho-Lythin.

The recommendations of the subcommittee were adopted by the Council and in accordance therewith the report is published, with the following comments.

W. A. Puckner, Secretary.

According to the above analysis, this wonderful new remedy, "which surgeons of this city (New York) have used . . . after laparotomies . . . with excellent results" is simply a mixture of well-known salts obtainable in any drug store, and which any third-year student knows how to prescribe and even to compound.

Sodium sulphate in the crystallized form is commonly known as Glauber's salt; disodium hydrogen phosphate is ordinary, common, every-day sodium phosphate. We presume every physician knows what Glauber's salts are good for, and that phosphate of soda is an excellent saline laxative, although it has not been known before that it possesses antiseptic properties. Sodium thiosulphate is familiar to physicians as sodium hyposulphite, and to photographers as "hypo," while every one knows, of course, that sodium chlorid is common salt.

Examination and analysis of various specimens of this product demonstrated that its composition is not always the same. Thus analysis of one specimen indicated only 5.12 per cent. of anhydrous sodium sulphate instead of more than 10 per cent. in the first specimen; also this specimen contained 10.46 per cent. of water instead of 1.83 per cent. Apparently, therefore, the manufacturers are not competent to prepare a product of constant composition. Or is it simply that they do not care to do so and believe that anything is good enough for the doctor? That the first is the more probable cause is indicated by the report of one chemist which calls attention to the fact that different portions taken from the same bottle differed widely in composition. The following is taken from his report:

The analysis shows Sulpho-Lythin is not a definite chemical compound but a mixture of sodium phosphate, sodium thiosulphate and some compound of lithium. That it is only a mixture is shown by the fact that in the examination for thiosulphate when the substance was examined without first being thoroughly mixed, results were obtained varying from approximately 27 per cent. in the first portions taken from a bottle, to 42 per cent. in the last portions of the same bottle.

As a further sign of the ignorance and incompetence of the promoters of this nostrum it is interesting to note that the label on one of the bottles purchased states that it is a "sulphophosphate" instead of a sulphophosphite. Apparently the

gentlemen who presume to instruct us in regard to this remedy do not know the difference between a phosphite and a phosphate. Or do they know the difference, but feel perfectly safe that in our own ignorance we will not note such contradictions?

The attempt to make a "true hepatic stimulant, antizymotic and uric acid eliminant," all in one, out of simple laxative salts, is surely bold enough to excite one's admiration, even if it does not inspire one's faith. Certainly those who have the brazen assurance to offer such a combination to physicians as a new and valuable remedy must have a pretty high opinion of the intelligence and of the credulity of that profession. Some occult and wonderful skill must be used in mixing Glauber's salts, phosphate of soda, etc., to produce a medicine which will do the wonderful things claimed for Sulpho-Lythin by its promoters.

WONDERFUL VIRTUES OF THE NEW COMPOUND.

According to one circular, this simple mixture of salts is a great remedy for:

Disorders of the Liver, Inflammation of the Gall Bladder and Bile Ducts, Acute Congestion of the Liver, Gall Stones, Intestinal Indigestion, Chronic Constipation, Rheumatic and Gouty Conditions, Diabetes, Nephritis, Acute or Chronic, Bright's Disease, Genito-Urinary Diseases, Miasmatic (Malarial) Fevers, Skin Eruptions, Corpulency or Obesity, Convalescence from Alcoholism and the Treatment of Drug Habits.

In another circular we read:

"It is not itself a cathartic or even a laxative, but catharsis results from its administration because of the bile that is poured out into the intestinal tract, and the sulphur liberated by its decomposition."

Wonderful chemistry that is able to remove the laxative quality from Glauber's salts! What an advantage this internal manufacture of sulphur and sulphurous gases has over the crude manner in which molasses and brimstone were administered to the pupils of Dotheboys Hall.

"Sulpho-Lythin is absorbed and passes into the circulation, where it exerts an antifermentative and antitoxic action, restoring and preserving normal alkalinity of the blood and preventing or counteracting septic processes throughout the body. It is also a *solvent for uric acid.*"

Thus the great puzzle of an internal antiseptic is solved and that which generations of pharmacologists have failed to find is discovered by an ingenious layman who now imparts his discovery to the medical profession at so much per bottle. Does he suppose that intelligent physicians still entertain the notion that anything that contains a grain or two of lithium to the dose will act internally as a uric acid solvent?

"Sulpho-Lythin acts also on the skin, stimulating the perspiratory glands and removing discolorations and eruptions on its surface."

Our amateur pharmacologist has probably applied his knowledge of amateur photography to therapeutics and uses "hypo" to remove eruptions as well as stains.

"Sulpho-Lythin is particularly effective in all forms of derangement of the liver because it is one of the very few hepatic stimulants, which increases the secretion of bile and causes it to be discharged into the bowels."

What need for universities to erect laboratories for the prosecution of laborious animal experiments in search of biliary stimulants when the discovery has already been made in a New York office building. The grammar of the above quotation indicates the progressive character of our instructors.

"In the preparation of patients for surgical operations, Sulpho-Lythin is especially valuable because it restores and preserves normal functional activity of the liver, bowels, kidneys and skin, and places the patient in the best possible condition to withstand the shock of the operation and to recuperate therefrom. . . . The length of time required for efficient preparation will depend on the character of the operation and the condition of the individual patients when they come under observation. As a rule, Sulpho-Lythin should be administered for one, two or three weeks prior to the operation to obtain the best result."

Our distinguished surgeons are no doubt proud to honor American commercial enterprise by sitting at the feet of progressive "chemical" (?) companies to receive instruction regarding the manner in which they should prepare their patients for operation.

NOT ADVERTISED TO THE PUBLIC!

This nostrum is not advertised to the public. Oh no! It is put up solely for physicians' use (*sic*). But the physician is repeatedly advised in the advertisements to "order always an original (6 ounce) bottle to prevent substitution." 'Twas ever thus. The physician prescribes as ordered and then wonders why his patients buy "patent medicines." The patient, in this instance, gets plenty of advice as to the use to which he can put the nostrum. "An original (6 ounce) bottle to prevent substitution" has labels on three sides of the bottle.

On one side the patient reads that Sulpho-Lythin is "a true hepatic stimulant, antizymotic, uric acid solvent and eliminant."

On side No. 2 he learns that it is indicated in: "Disorders of the liver, intestinal indigestion, chronic constipation, inflammations of the gall bladder and bile ducts, gallstones, jaundice, rheumatic and gouty conditions, uric acid diathesis, diabetes, albuminuria, malarial fevers, skin eruptions, corpulency, preparation of patients for surgical operations and convalescence therefrom, convalescence from alcoholism and drug habits."

Label No. 3 tells the patient how to use it.

In the language of a wise man, "What fools we mortals be."

We not only allow adventurers to humbug us, but we permit ourselves to be used as agents to humbug the trusting layman.

THE EXPLOITERS OF THE STUFF.

And now, who and what is this Laine Chemical Company? Is it a regular pharmaceutical or chemical company engaged in the business of manufacturing drugs and chemicals? If so, where is its manufacturing establishment and its laboratory? One of the phases connected with this proprietary medicine business is that many of these preparations are foisted on our profession by promoters who have gone into the business as they would go into the business of humbugging people with a "patent medicine," into a scheme for exploiting stock in a salted mine, or into any other get-rich-quick scheme. This is not a reckless statement on our part; we have plenty of evidence to prove it, and we believe that physicians can verify it if they will make a little inquiry into the standing and character of some of the so-called "chemical" or "pharmacal" "companies" whose preparations they have been deluded into prescribing. We can not swear whether or not the Laine Chemical Company is of this character. We have been trying to find out. From one source we learn that the "business was started nearly two years ago for the purpose of putting up a proprietary remedy, but nothing was known in the trade as to the individuals composing the firm. After being in business for some time the firm was incorporated, the certificate of incorporation being dated Albany, N. Y., Jan. 29, 1906. The names given in the certificate were A. C. Aubrey, W. L. Clark and W. L. Sohl." Our informant said that apparently W. L. Sohl was the secretary and manager, but that nothing definite could be learned.

Not having received any satisfactory information from the sources tried, we asked Dr. Robert A. Hatcher, professor of pharmacology in Cornell University Medical School, to make a personal investigation and to learn, if possible, what kind of a concern it is. Under date of July 25 Professor Hatcher writes:

"I went to the office of the Laine Chemical Co., Room 25, 83 Fulton St., an office building. I finally found the company domiciled in a small room, in which were three girls typewriting. There were also advertising circulars, a number of bottles in a case, and a few cases marked for shipment. There was also present a man, apparently about 35 years of age, in charge. I told him that I had been asked to learn what I could of the Laine Chemical Company, its personnel, etc. He asked me my name and occupation, which I gave, and for whom I was requesting the information. He remarked that he knew 'the whole bunch out there,' meaning THE JOURNAL and its managers, and said that they could get any information they wished by writing to the Laine Chemical Company for it. He further added that THE JOURNAL wanted to 'know a whole lot that is none of its business.' I could get no information whatever from him nor from any other source that was satisfactory. From what I have been able to find out, it would seem that the company is made up of men who know nothing whatever about pharmacy, chemistry or medicine; that the business of this 'chemical company' is selling to physicians the nostrum sulpho-lythin. Whether or not they put up the stuff themselves, or have it put up for them, I could not learn. The City Directory gives 'W. L. Sohl, secretary, 81 Fulton, R. 25, h. 231 W. 131st.'; 'A. C. Aubrey, Lawyer and Notary Public, 35 Nassau St.'; W. L. Clark, Lawyer, 35 Nassau St.' There is also a 'W. L. Clark, Clerk,' business address not given.

"I left the concern with disgust and shame to think that physicians would take therapeutic advice from such a source. Is it not possible to make physicians realize the shamefulness of it all? It is bad enough for a physician to give his patient a concoction the exact composition of which he does not know, and put out by a legitimate pharmaceutical or chemical firm, but to prescribe a nostrum put out by an anonymous company, is certainly inexcusable if not disgraceful. I feel sure that if you can show up a few of the pseudo companies and let physicians know about them, and how they (the physicians) are being duped, there will soon be an end to this infamous business."

After receiving the above letter from Professor Hatcher, we wrote to the Laine Chemical Company as follows:

"Chicago, August 17, 1906.

"*The Laine Chemical Co., New York, N. Y.:*

"*Gentlemen:*—We recently sent a representative to see you for the purpose of obtaining certain information regarding your firm. Our representative writes that he called at your office, that you refused to give him the information requested, and that you stated that you would furnish us the information if we would write to you.

"As you are advertising to physicians a medicinal preparation known as 'Sulpho-Lythin,' and as THE JOURNAL of the American Medical Association is the official organ of the American Medical Association and published in the interest of the profession, I hope it will not be considered impertinent to ask for the information called for by the following questions. The information is for use in THE JOURNAL, if at any time it should be deemed to the interest of the profession to discuss your product in its columns:

"1. Who are the members of the firm, or corporation, known as the Laine Chemical Co.?

"2. Is either of the members of this firm, or corporation, a registered pharmacist, a chemist, or a physician?

"3. What, if any, other preparation does the Laine Chemical Co. manufacture or sell?

"4. Is 'Sulpho-Lythin' made by the Laine Chemical Co.? If so, where is the laboratory or factory? Please give street and number.

"5. Is 'Sulpho-Lythin' a definite chemical compound, or a mixture? If a chemical compound, what is its chemical formula? If a mixture, what are the ingredients, and the proportion of each ingredient to a given amount of the product?"

When we wrote the above letter we were aware that it was a presumptious thing to do, but nevertheless the information asked for would be willingly furnished by any legitimate pharmaceutical house, and, for that matter, by any business concern, no matter what the business might be. Some might object to furnishing the names of all persons connected financially with the firm, but none would object to giving the names of those in direct and responsible charge. However, in a few days the following letter was received:

"New York, Aug. 21, 1906.

"*Dear Doctor:*—The officers of our company are at present absent on their vacation and immediately on their return we will send to you a full reply to your communication under date of August 17.

"Trusting that this is satisfactory, we are, yours very truly,

"Laine Chemical Co."

After waiting nearly three months—a rather long vacation for the officers to take—the following communication was received:

"New York, Nov. 9, 1906.

"*Dear Doctor:*—Reverting to your communication of August 17, receipt of which was acknowledged under date of August 21, we will state that the Laine Chemical Co., is a corporation, incorporated under the laws of the State of New York; that Sulpho-Lythin, exploited to the medical profession exclusively, is the only product now manufactured by the Laine Chemical Co.; that Sulpho-Lythin is manufactured under the immediate supervision of the Laine Chemical Co. by a regular graduate in pharmacy; and that the active constituents of sulpho-Lythin are combined in a Sulpho-Phosphate of Lithium and Sodium. Very truly yours,

"Laine Chemical Co."

It looks as though each of the above letters is signed by the same individual, and the writing bears a similarity to that of W. S. Sohl; at least, his signatures to letters which were written to physicians and druggists and forwarded by them to us, bear an extremely marked similarity to the writing of one who signed the letters quoted, all of which make it appear that "the officers of our company" were taking their vacation in the City of New York. It will be noted that the important questions in our letter of August 17 were not answered.

Possibly we ought to apologize for devoting so much space to such an insignificant nostrum. If any apology is necessary, we offer the following:

Sulpho-Lythin literature carries testimonials written by men of influence and standing in the profession—not many happily—and it is advertised in medical journals supported—only in part, it must be admitted—by educated and thoughtful members of our profession.

Sulpho-Lythin is a sample of hundreds—shall we say thousands—of so-called "ethical proprietaries" that are being used by physicians; it is no worse and no better than most of the others. It illustrates beautifully various phases of the "ethical proprietary." They are not made under responsible and intelligent supervision. The vast majority of them are made, or at least sold (for not a few have their preparations made for them by others, as do many of the "patent medicine" vendors), by men who have absolutely no knowledge of drugs or of medicine, but who not only presume to sell medicines of their own compoundings, but also arrogate to themselves the right to tell physicians how to treat their patients, advice which every physician with any self respect would scorn to accept, did he know who gave it.

Most of these preparations are simple mixtures of well-known drugs that physicians are prescribing every day, and which require as much skill in compounding as can be found in a drug-store bottle washer.

But granting that some of these mixtures may possess good qualities and be convenient, their secret nature and the irresponsibility of their makers give the physician no guarantee that their composition will remain uniform, and that the materials used will be of good quality. If these preparations are to be used, it is evident that some control is necessary by some authority acting in the interests of the medical profession. It ought to be evident by this time that the Council on Pharmacy and Chemistry had an important mission to perform, and that such a body was created none too soon.

Correspondence

The Danger of X-Ray Exposures.

Chicago, Nov. 28, 1906.

To the Editor:—Dr. David L. Edsall's article in THE JOURNAL, Nov. 3, 1906, so overstates, in my opinion, the dangers from *x*-ray exposures that it should not go without reply. Dr. Edsall's article begins with several paragraphs devoted to an implied criticism at the tardiness of the recognition of deep-seated effects of *x*-rays and at the purely empirical use of *x*-rays as a therapeutic agent. His opening sentence is: "In its relation to medical practice, one of the most remarkable things about the *x*-ray is the tardiness with which there was any realization of its power of producing very marked changes in other tissues than those superficially situated. "X-rays were discovered November, 1895. To cite no other illustration, as long ago as the summer of 1897, W. Stone Scott reviewed the cases in which deep-seated effects were thought to have occurred from *x*-rays without corresponding effect on the overlying tissues. As a matter of fact all through the literature of *x*-rays from the start appears the idea of the possibility of deep-seated *x*-ray effects.

As to the empirical character of the therapeutic use of *x*-rays: A favorite pose of scientific men in criticising new therapeutic agents is that of a superior sort of regret at the empirical character of the knowledge of these agents. Dr. Edsall, without doubt, sincerely, assumes this attitude of criticism towards *x*-rays. He says for example: "With the *x*-ray, on the contrary, the method that has been adopted has been to try its effect for both diagnostic and therapeutic purposes on all manner of conditions, and only gradually, largely by painful experience, to learn that it may have dangerous effects." As a matter of fact this attitude of criticism for empirical therapeutic knowledge is wholly unjustified by the history of therapeutics. If one will except the organic products, like thyroid extract, and the therapeutic sera, like diphtheria antitoxin, he will be hard pushed to give any illustration of therapeutic agents whose value has not been first established empirically. There is one lone brilliant example of the first therapeutic application of a drug on the basis of a previous study of its physiologic properties, and that is the use of amyl nitrate in angina pectoris, suggested by Lauder Brunton. I think Dr. Edsall will have difficulty in finding any other useful therapeutic agents that are not open to the criticism of empiricism which he has brought against *x*-rays. But if the real facts be considered, we find that the physiologic effects of *x*-rays have been studied from the beginning about as carefully as those of any other agent now used in therapeutics. And *x*-rays will nearly furnish another illustration of a therapeutic agent whose use has been based on a previous study of its physiologic effects. Almost as soon as the first *x*-ray burns happened, and that was synchronous with the first use of *x*-rays, the study of the physiologic effects of *x*-rays began. In evidence of this fact reference may be made to the studies of Kibbe in 1897, Gilchrist in 1897, Oudin Barthelemy and Darier in 1897, Unna in 1898 and Scholtz in 1902, to

quote no others. I doubt if any more careful studies of the effect of any therapeutic agent can be produced than the studies of Oudin, Barthelemy and Darier, and of Scholtz on the effects of *x*-rays on tissues. And all these studies were made by 1902, that is, previous to the time when the use of *x*-rays as a therapeutic agent became general. As a result chiefly of the study of the effects of *x*-rays on tissues, Freund in 1900 offered a classification of the rational therapeutic indications for the use of *x*-rays and in 1902, on the basis of Fruend's classification, I made a statement of the therapeutic indications for the use of *x*-rays, which I believe can be well defended at the present time, and which has certainly given one or two operators a basis for rational use of the agent. That classification left out of consideration practically none of our present knowledge except that concerning the effect of *x*-rays on the blood.

I may claim to have been one of the early workers with *x*-rays in therapeutics, and I never made an application of *x*-rays which was not based on indications that were reasonable deductions from the existing knowledge of their physiologic effects, and which was not in accordance with the therapeutic indications which I have published. I treated with *x*-rays the first reported cases of Hodgkin's disease and leukemia. The treatment was undertaken because of the logical indications furnished by a knowledge of the effects of *x*-rays on cells of low resistance, like those of sarcoma, so that even in these conditions the treatment was not blindly empirical. I mention these facts not to claim any particular credit, but to show that the work has always been based on rational indications which may be found by anyone who studies the literature. But this part of my criticism of Dr. Edsall's article is by the way; it is offered in the interest of historical accuracy and to suggest that his sweeping criticism of *x*-rays is not founded on a full consideration of the literature.

As to the dangers from the use of *x*-rays: Contrary to the statement of Dr. Edsall that "the dangers of the *x*-ray have been recognized for only a comparatively short time," I should say that "the dangers of the *x*-ray" have been the ever-present fear of *x*-ray operators since the first *x*-ray burns occurred. This has been chiefly dread of *x*-ray burns, as it should be, but, as the literature from the start will clearly show, it has included the dread of constitutional effects of one sort or another, including the constitutional effects from the development of metabolic toxic products. In spite of this fact, I think there is not a conclusive case in the literature of fatal toxic disturbance from *x*-rays without the occurrence of a severe burn. The nearest to such a case with which I am familiar is the case reported by C. J. White, in which a patient suffering from mycosis fungoides became suddenly ill and died while the cutaneous condition was improving. But the symptoms were septic symptoms in that case and on autopsy the patient was found to have a general sepsis, and, as that is a very common cause of death in mycosis fungoides, it leaves the case inconclusive. In a daily experience with *x*-rays for seven years, I have carefully watched for severe toxic symptoms. They have not occurred. I have seen severe symptoms, apparently toxic, in cases of extensive burns and I have seen mild symptoms, apparently due to the production of toxins, in cases of leukemia and of other diseases in which large masses of pathologic tissue were disappearing under *x*-ray exposures. But such symptoms occur in these cases independent of the use of *x*-rays. On the other hand I have seen great masses of tissue disappear rapidly in leukemia, pseudoleukemia, splenomegaly, sarcoma, mycosis fungoides and carcinoma while the patients were rapidly improving in general health; this indeed has been the usual occurrence in such cases. I do not say that toxemia never occurs in these cases and that no effects on the blood are produced which might possibly be dangerous. I know of the studies of Schirmer, Heineke, Dock, Warthin, Morris, Linser and Helber and others and I know that these changes may occur from extreme exposures. What I say is that these changes are not likely to manifest themselves to any grave degree in reasonable exposures with *x*-rays, meaning by "reasonable," safe as regards the production of *x*-ray burns. I can say that with an experience with *x*-rays extending over seven years and with many exposures daily, I have not seen a single severe case of intoxication or of other constitutional disturbance which was reasonably attributable to *x*-rays.

Dr. Edsall says: "The effect of an ordinary dose (of *x*-rays), may, in fact, be more severe than the effect of a similar dose of any other therapeutic agent with which I am acquainted, and may either be extremely useful clinically or so dangerously violent as to hasten death and perhaps even to cause it. . . ." With my experience with *x*-rays and that of many others, to say nothing of the literature, that statement is incomprehensible to me. If he means by an "ordinary dose" one from which there is no danger of burn to the skin, I am willing to enunciate the opposite proposition, viz., that an "ordinary single exposure is never attended by any danger of constitutional disturbance." I have watched for this closely. Holzknecht in 1903 called attention to an exanthem and a constitutional disturbance which he said occurred in about 1 per cent. of cases of *x*-ray dermatitis. The condition he described as a very definite clinical entity and he thought it was due to the absorption of toxins from the degenerated tissue. If it occurs in 1 per cent. of cases, I ought to have seen it several times. When the statement appeared I reviewed my own cases with that point in my mind and I have had it in mind since, and it has positively never occurred to me.

Dr. Edsall states further: "I have the records of three cases in which, after one exposure, there was a reaction so severe as to make the patient profoundly ill, and in two of these cases death occurred, while the third patient had a narrow escape." He indicates that at least "in one of these cases it was clinically not clearly evident that the *x*-ray exposure produced the severe illness," but he does not report the cases in detail. These cases are incomprehensible to me. In view of the absence of such cases from the literature, in spite of the fact that almost every conceivable accident from *x*-rays has been recorded, and with my personal experience, I can not believe that the results were more than a *post hoc*. It is inconceivable to my mind that any exposure which is safe as regards danger of producing a burn could have such general effects. In this connection reference may be made to the effect of *x*-rays in producing sterility. This result may undoubtedly be produced, but I would call attention to the fact that according to my experience the danger has been greatly exaggerated. I have records of seven women who had numerous *x*-ray exposures previous to or during pregnancy. Some of these patients had as many as 100 exposures. They were all given before this danger was recognized and no special care was taken to protect the ovaries, although they were not directly exposed. These seven patients have all had children within 18 months after stopping *x*-ray exposures

In the foregoing my wish has not been to minimize the real dangers from the use of *x*-rays. I am keenly alive to the dreadful accidents which may happen from their careless use, but I would maintain as strongly as I know how that the dangers which we have to fear are those arising from burns, and that if we stay within the bounds of safety as regards burns the other dangers can practically be neglected.

WILLIAM ALLEN PUSEY.

America's Neglect of the Nobel Prizes.

WAKEFIELD, NEB., Oct. 29, 1906.

To the Editor:—Referring to your editorial of April 15, 1905, on "Our attitude toward the Nobel prizes," I would like to ask if any effort has as yet been made to secure any of these prizes for American work?

Believing that the expression of jealousy in the news columns of THE JOURNAL, Dec. 25, 1905, page 1966, shows plainly the existence of misconception or lack of knowledge regarding the method of awarding these prizes, I reproduce the following authoritative description of the "Nobel Foundation" under which name this prize-awarding institution is officially known.[1]

"Alfred Nobel bequeathed nearly the whole of his fortune (more than 30 million kronor) to a fund, the interest of which

1. "Sweden, Its People and Its Industry." Historical and statistical handbook. Published by order of the government. Edited by Gustav Sandbörg, First Actuary of the Royal Swedish Bureau of Statistics, Stockholm. Government Printing Office.

shall be annually paid out to those who during the immediate past 'have conferred the greatest benefit on mankind' in certain lines. The interest is to be divided into five equal parts to be allotted as follows: 'One part to the person who shall have made the greatest discovery or invention in the domain of *physics*; one part to the person who shall have made the most important *chemical* discovery or improvement; one part to the person who shall have made the most important discovery in the domain of physiology or *medicine*; one part to the person who shall have produced in the field of *literature* the most distinguished work of an idealistic tendency; and one part to the person who shall have most or best promoted the *fraternity of nations* and the abolition or diminution of standing armies, and the formation and propagation of peace congresses.' The prizes in physics and chemistry are awarded by the Academy of Sciences in Stockholm; in physiology and medicine, by the Caroline Institute in Stockholm; in literature by the Swedish Academy in Stockholm; and for the work of peace by a committee of five persons nominated by the Norwegian Storthing.

"The statutes of the Nobel Foundation, as also special rules concerning the distribution of the prizes, were ratified by the government on June 20, 1900. In accordance with these, the four above mentioned institutions, as distributors of the prizes, shall appoint, for two years at a time, fifteen delegates, the Academy of Sciences electing six, the other awarding bodies each electing three. The delegates, with whom decision rests concerning reports of audit, for two years running appoint four members of the board of the foundation, who shall meet in Stockholm and consist of Swedes; a fifth member, who is chairman of the board, is nominated by government. The board, which from its members shall elect a managing director, administers the funds and other moneys of the foundation, as also other property belonging to the foundation in so far as it is common to the prize-groups. For every Swedish prize-group the due authorities who are to distribute the prizes nominate a so-called Nobel Committee, consisting of three or five persons, who are to give their opinion anent the distribution of the prize. The corresponding deliberations anent the distribution of the peace prize shall be undertaken by the Nobel committee appointed by the Storthing. To be chosen member of a Swedish Nobel Committee, it is not necessary to be a Swedish subject, or that the individual elected be a member of the special institution distributing the prize. In the Norwegian Nobel Committee other than Norwegians may also be members. Where so deemed necessary, the distributors may appoint an expert or specialist to take part as a member in a committee.

"As aids in the necessary preliminaries, as also otherwise to advance the objects of the foundation, the authorities who have to distribute the prizes may establish scientific institutions and other organizations, which shall be called Nobel Institutes. Foreigners, male or female, may be appointed at these institutes. Should the distributors of the prizes consider it advisable, the Nobel Institutes shall all be within the same precincts and similarly organized. The prizes are distributed annually (for the first time in 1901) on the high-day of the foundation, i. e., December 10 (the anniversary of the testator's death).

"To become a candidate for one of these prizes, it is necessary to be proposed in writing by a person competent thereto. (Applications for receiving a prize made by the author himself are not considered.) The right of proposing a candidate for a prize is held both by Swedish and foreign champions of culture in accordance with minute instructions issued by the corporations charged with adjusting the prizes. The proposal of a candidate should be accompanied by those works and other documents that are cited. The prize receiver, if possible, within six months of being awarded the prize on December 10, shall in Stockholm (as regards the prize for peace, in Christiania) give a public lecture on the work having gained the prize. No work shall be given a prize, unless by experience or expert examination it be deemed of such pre-eminent importance as is plainly indicated by the will. Should no work under consideration be deemed worthy of the prize, the money shall be reserved to the following year. As regards what is to be done, if the prize can not then be awarded, see below. Within each prize-group, however, the prize must be awarded at least once in every five-year period. The amount of a prize can be divided between two works. If two or more persons have together produced a work to which a prize is awarded, the prize is given to all participants in common. Every awarding body has a right to decide the respective prize to be conferred also to institutions and associations. From the funds of the donation, at the commencement of its activity, a sufficient sum for premises for the due administration of the foundation is taken, as also for each group of prizes the sum of 300,000 kronor, for the expenses of organizing the Nobel Institutes. From the annual proceeds of the main fund, a tenth part shall be added to the capital; of the remainder, each group shall dispose of one-fifth. The sum will, of course, vary according to rate of interest, etc. At present, each prize-group will annually dispose of an amount of nearly 200,000 kronor. One-fourth of this sum will be set aside for the immediate expenses of awarding the prizes and for the Nobel Institute for the group in question. Thus for each of the five prizes there will be about 140,000 or 150,000 kronor (from $37,000 to $40,000). If a prize can not be awarded for two years consecutively (see above) the amount of the prize shall be added to the main fund. Three-fourths of those taking part in the decision may, however, determine that the sum shall instead be set aside as a special fund for the prize-group in question. The proceeds of such a fund may be used—otherwise than as prizes—to advance those objects ultimately aimed at by the testator."

From the above it is plainly seen that the prize-awarding institutions do not themselves exercise any initiatory action, but merely distribute the prizes to those, who among the duly proposed candidates are, in their opinion, the most worthy.

It seems that by these regulations justice and fairness in the administration of the vast funds and the awarding of the magnificent prizes, which are truly of "an unprecedented magnitude," are most admirably assured. The prize-awarding bodies stand above reproach. In looking over the list of those who have so far been honored with prizes, one is struck by the evident and notable impartiality as regards the nationality of the recipients. The only reason why an American has so far not become a recipient of a prize is probably that no American has as yet been proposed in due form. And until steps are taken duly to present our candidates to the prize-awarding institutions, we can not justly complain, that "the trustees in charge of the awarding of the prizes do not seem to be aware that there is such a continent as America on the globe."

A. E. ENGZELIUS,
Vice Consul of Norway.

The Migratory Needle Story.

MESCALERO, N. M., Nov. 24, 1906.

To the Editor:—In response to the editorial in THE JOURNAL, Nov. 17, 1906, urging that cases presenting the phenomena of migration be reported, the following report is made:

E. S., German, blacksmith, presented himself at my office, April 18, 1906, and showed me a pea-sized tumor on the upper outer aspect of the metacarpophalangeal articulation of the index finger of the right hand. The tumor was slightly tender on pressure, easily movable, and had a hard, gristly feel. He gave as a history that 14 years ago, while working over his anvil a small piece of his hammer flew off and embedded itself in the right side of his neck just under the angle of the jaw. From his description of the bleeding, evidently an artery was severed. It required the services of two physicians and several hours' time to arrest the hemorrhage which must have been deeply situated, as a large scar, caused by the work of the doctors, remains. The piece of steel could not be found. He stated that he believed the tumor on his hand contained that piece of steel and it was curiosity that caused him to come in. On cutting down on the tumor it was found to contain a small piece of steel, about the size and shape of the head of a four-penny cut nail. It was enclosed in a tough capsule, which came out with it.

While this man is an iron worker and is constantly exposed to injuries in which a small piece of metal might penetrate the

skin of his hands, he stated positively that nothing of the kind had occurred to his knowledge. The migration of the piece of steel in this instance can be very easily accounted for by considering that it was transported within the arteries. In the first instance it must have penetrated the facial artery just above the point where it is given off from the external carotid, or else entered directly into the external carotid itself. In either case, the facial artery being nearly vertical at this point, it could have sunk by its sheer weight, against the blood current, down the external carotid and common carotid to the innominate, whence, the subclavian opening out almost horizontally, it could have been swept by the blood current into that artery, thence down the arm through the axillary, brachial and radial and finally entered the dorsalis indicis in which it was carried until the lumen of the vessel became too small for it to go further. Then by the *vis a tergo* and muscular action of the hand, it worked out of the artery and formed the tumor under the skin. The patient said he had noticed it only two or three days before requesting its removal.

IRVING MCNEIL, M.D.

DEKALB, ILL., Nov. 22, 1906.

To the Editor:—Your article on the "Migratory Needle" has just been noted. In one case, to my positive knowledge, a needle lay within the pericardial membrane and parallel to the heart, in a slaughtered beef. I had the specimen in my office for years. In another case the needle had transfixed the apex of the heart of a chicken, which, when killed, showed no sign of interference with the heart or the condition of the fowl. Nearly one-half the length of the needle had passed transversely through the apex of the heart. Reference can be given to those who made the discovery. In both instances the needles had doubtless been swallowed and had penetrated the tissues until they occupied the position as found.

J. M. POSTLE, M.D.

Biographical Cyclopedia of Medical Men.

BALTIMORE, Nov. 28, 1906.

To the Editor:—I am at present engaged in a piece of work which must be a matter of profound interest to every practitioner in the country, and for this reason I turn to THE JOURNAL to secure the coöperation of its readers.

I am preparing a Cyclopedia of American Medical Biography of the worthies who have passed away in this country and in Canada from the earliest times down to the present, including such living practitioners as have retired from active service.

The Cyclopedia will be issued in several volumes, the names being given in alphabetical order. I shall have the coöperation of some of the best men in the country, men who have already made a reputation as students of medical history.

I want in this work to give a full account of the lives, something of the personalities of the medical or surgical activities, and of the writings of all our leading men. I want also to include a brief sketch of the lives of men who have been very prominent in their own locality without, however, having been widely known as writers or original investigators. There are a number of men who have powerfully influenced the trend of medical and surgical thought who have never put a pen to paper to put their work before the profession.

In prosecuting this work, I shall have the aid of men who will take up the country by states, as well as those who will take up the various specialists. I want, in order to further my aim, to get hold of all the biographies that I can lay hands on which have been published in medical journals or elsewhere. I want also photographs, or photographs of pictures of these men.

It is for this reason I write to you, to ask the profession at large, to send me names, personal communications or biographies which they may have on their shelves and can spare, or medical journals with references to biographies. I shall appreciate as a special personal favor any such communications.

The work will take two, perhaps three years, to complete. I will write later and give you the names of my collaborators, and ask for suggestions as to certain neighborhoods which may prove difficult to cover in this way. I will, also, at a still later date, publish a list of the names to be included in the biography, asking for further suggestions, that I may fill in all the gaps. The work is an ambitious one and is to be more elaborate than any which has yet appeared. I purpose to make the biographies anywhere from 10 or 15 lines up to as many pages; in the latter case using freely such biographies as Thacher's published in 1828. I shall be glad if any who are willing to help in this matter will write directly to me at 1418 Eutaw Place, Baltimore.

HOWARD A. KELLY.

Professional Loyalty.

SULLIVAN, Mo., Nov. 17, 1906.

To the Editor:—About six months ago Dr. J. P. Dunigan of this place was sued for $30,000 damages for alleged failure to replace a dislocated hip. Trial was postponed once, and last week plaintiff took change of venue to Steelville, where the case will be called probably next month. Every physician in the county, including those subpoenaed by plaintiff, was on the side of the defendant, which caused the following remark from plaintiff's lawyer: This is the first and only place we have ever seen or heard of where all the doctors "stick" together.

O. N. SCHUDDE, M.D.

[The progress of organization in this country is having excellent results in the elimination of jealousy and strife among physicians, and the above is only one example of this fact. Often in the past it has been common for a physician to testify against another, against whom a malpractice suit had been started, even when facts had to be juggled to enable him to do so. Happily, such conditions are now becoming more rare.—ED.]

Cleansing Blood Pipettes.

TOLEDO, OHIO, Nov. 29, 1906.

To the Editor:—In your last issue I read Dr. Benmoscheʼs article describing the use of a camera bulb to cleanse blood pipettes. It may be of some interest to readers of THE JOURNAL to know that an ordinary rubber ear syringe will be more satisfactory for this purpose, and for many it is more easily obtainable. For some time I have been using one for the same purposes as described by Dr. Benmosche and have found that the end of the pipette fits into the rubber "tit" of the bulb ear syringe better, and with less likelihood of leakage of air and fluid, than with any other bulb I have used.

GEORGE H. JONES.

Medical Legislation

Endorses National Health Department and Insurance Fee Campaign.—The Ohio Valley Medical Society has unanimously adopted the following resolutions:

WHEREAS, The search after knowledge, largely among medical men, has, in recent years, brought to light many valuable truths relative to the prevention and cure of disease and the relief of suffering, making it incumbent on the medical profession to provide for the well-being of society, both in time of peace and war; and

WHEREAS, In caring for the soldiers of the United States and protecting the citizens at home from contagious and infectious diseases, during the late Spanish-American War, our experience demonstrated that the medical departments of the Army and of the Navy were handicapped in the great work in hand by superior officers, not that they were opposed to the ideas of the medical department, but that they were either indifferent or did not realize the importance of the undertaking; and

WHEREAS, The American Medical Association has a National Legislative Council, of which Dr. Charles A. L. Reed, Cincinnati, is chairman; now be it

Resolved, That the Ohio Valley Medical Society, in council assembled, endorses the action taken by the National Legislative Council at its session held in the city of Washington, in January last, on the following subjects:

(*a*) The question of a Department of Public Health, with a representative in the Cabinet of the President of the United States.

(*b*) The Army and Navy Reorganization Bill, and such other bills as may present themselves to the National Legislative Body. And be it further

Resolved, That we heartily endorse the action taken by the Kentucky State Medical Association at its meeting in Owensboro, and by other state organizations, and hereby pledge ourselves to resist the efforts of insurance companies to lower the fee for medical examinations, and we pledge our support to the International Policy Holders' Association.

C. Z. AUD,
Member of the National Legislative Council for Kentucky.

Book Notices

FIRST REPORT OF THE CLINIC FOR THE TREATMENT OF COMMUNICABLE PULMONARY DISEASES. Department of Health, City of New York. Thomas Darlington, M.D., Commissioner of Health, and John S. Billings, Jr., M.D., Director. Cloth. Pp. 46.

This report, by Dr. John S. Billings, Jr., is a book of 46 pages, giving the history and arrangements of the clinic as well as the results for the period from its establishment in March 1, 1904, to Jan. 1, 1906. New York was one of the first cities to require reports of tuberculous cases. This was done as regards public institutions in 1894 and in 1895 free examinations of sputum were begun; in that year 511 specimens were examined, while 10 years later, during 1905, 18,639 were examined. A special corps of medical inspectors was organized to visit all patients not under the care of private physicians, at their homes, and to order the disinfection of premises vacated by consumptives. A corps of nurses was provided to visit all living cases requiring such supervision; a municipal sanatorium was opened and finally the municipal clinic was established.

The principal services rendered by such a clinic are: Early diagnosis, intelligent supervision of patients under treatment, continued observation of them at their homes, removal of patients requiring such care to hospitals or sanatoria, provision of an institution to which patients with tuberculosis can be referred, the extension and strengthening of the sanitary control of tuberculosis among the poor by the board of health, and the care of laryngeal cases. X-ray examinations and treatment, and laryngeal examinations and treatment are given to suitable cases. Exact directions regarding diet and medicines are given, and the patients are carefully instructed in the care of sputum and other hygienic measures. Milk and eggs are supplied to needy patients through the New York Diet Kitchen Association. From 700 to 1,000 quarts of milk a week are furnished to patients ill with tuberculosis. If the disease is incipient, patients are urged to enter a sanatorium. When patients do not improve, or when it is a hardship for the family to support them, or when the home surroundings are insanitary, or when the patient can not or will not observe the necessary precautions regarding care of the expectoration, they are removed to a hospital.

The number of new cases during the 10 months of 1904 was 2,639, and during the corresponding 10 months of 1905, 3,354. During the whole of 1905 it was 3,815. The majority were foreign-born, but of 1,064 foreign-born only 65 contracted the disease before their arrival in this country. The fact that Russian Jews furnished the largest number of foreign-born tuberculosis patients is probably to be explained by the fact that the tuberculosis propaganda has been very actively carried on among these people. In almost half the cases a diagnosis of pulmonary tuberculosis was made in the absence of tubercle bacilli in the sputum.

Extraordinary care is taken to prevent the spread of the disease in the clinic. The floors, woodwork and furniture are washed daily, and the rooms are disinfected by fumigation with formaldehyd once a week. Thermometers are kept in a solution of carbolic acid and all diagnostic instruments are wiped daily with a similar solution. Physicians' gowns are disinfected once a week.

In conclusion the author expresses the opinion that, while it is difficult to judge of the part played by a single factor in the fight against tuberculosis, the results obtained by this institution are satisfactory and encourage the establishment of similar institutions elsewhere and the continuance of the good work.

A MANUAL OF MEDICAL TREATMENT OR CLINICAL THERAPEUTICS. By I. B. Yeo, M.D., F.R.C.P., Emeritus Professor of Medicine in King's College, London. Fourteenth Edition. Twenty-second Thousand. Vol. I-II. Cloth. Pp. 696 and 818. Price, $5.00 net. Chicago: W. T. Keener & Co., 1906.

This is a revised edition of the author's well-known work with the formulas adapted to the standard of strength of preparations employed in America by Prof. Oscar Oldberg. The work is in two volumes and covers the field of internal medicine from the standpoint of treatment to which the consideration of symptomatology and pathology is made subsidiary. The work is eminently practical and, while from its peculiar plan it can not be regarded as a complete treatise on medicine, it covers a field of the greatest importance to the practitioner. The most evident lack incident to this construction of the work is the neglect of diagnosis which must be regarded as of an importance to the medical man, equal to that of treatment. The subject is conservatively handled and there is no inconsiderate recommendation of untried measures, although this necessitates the occasional absence of reference to modern methods that are of real value. In some cases the various measures are described without apparent attempt to decide between the various plans of treatment, but in many cases a critical judgment is expressed. About half of the first volume is concerned with diseases of the digestive tract. Diseases of the mouth receive due attention but strange to say the teeth and gums are not mentioned. Interstitial gingivitis is perhaps the most frequent disease affecting the mouth of adults and deserving of the serious attention of the physician, but it is not mentioned. The treatment of diseases of the stomach is fairly satisfactory but betrays indications of the inexactness which characterized the study of gastric diseases before the diagnostic use of the stomach tube. Hyperchlorhydria, which affects probably the majority of patients seeking relief from stomach symptoms, is not mentioned as a separate affection. The same is true of gastroptosis unless it be included under dilatation of the stomach. The section on gastrointestinal affections is followed by that on the heart and here we find less to criticise. The cardiac tonics are treated with discrimination, the preference being given to digitalis, the use of which is carefully described. In typhoid fever the author advocates antiseptics giving the preference to his quinin-chlorin mixture. He is favorable to the use of hexamethylenamin (urotropin) to prevent bacilluria, but warns that he has seen it produce considerable bladder irritation and hence does not advise its continuance for as long a time as some have proposed. The treatment advised in the text is supplemented by appending to each chapter a number of prescriptions culled from the works of various authors giving completeness and breadth of view to the subject. On the whole the work gives promise of continuance of the great usefulness to which its wide circulation and repeated editions bear witness.

INFLUENCE OF THE MENSTRUAL FUNCTION ON CERTAIN DISEASES OF THE SKIN. By L. D. BULKLEY, A.M., M.D. Cloth. Pp. 108. Price, $1.00. New York: Rebman Co., 1906.

This work, the author states, is the result of over 10 years' observation and investigation. He considers the influence on skin lesions of each recurrent menstrual period and analyzes a number of cases. He declares that menstruation is only the culmination of "cyclic changes" in the system, and enumerates the changes in the urea, temperature and weight, thyroid and blood, as well as the nervous manifestations shown by many individuals. In regard to eczema, he states that the influence of menstruation is so great that he has kept a special record of these cases. He notes the most plausible theories, namely: 1, The cyclical changes in the general system; 2, autointoxication of genital origin; 3, nervous reflex irritation from congested condition of the uterus and ovaries. In the treatment, he says, all these theories must be taken into consideration. The book is practical and interesting, dealing as it does with a condition which is annoying to many women, but which is given too little attention by the average practitioner.

TOXICOLOGY. The Nature, Effects and Detection of Poisons, with the Diagnosis and Treatment of Poisoning. By C. M. Riley, M.D., Professor of Chemistry and Toxicology in Barnes University, etc. Third Edition. Revised and Enlarged. Cloth. Pp. 215. Price, $1.50 net. Philadelphia: P. Blakiston's Son & Co., 1906.

This volume gives in the compass of about 200 pages the essentials of toxicology as far as the subject interests the ordinary student or practitioner of medicine. The analytic directions include the methods likely to be needed in making the preliminary tests of vomited matter, urine or feces in suspected cases of poisoning. The directions for treatment are clear and embrace the treatment of chronic cases as well as acute.

Insurance Fees and Lodge Practice

COMMITTEE ON INSURANCE.

Preliminary Report.

LETTER OF TRANSMITTAL.

ROCHESTER, MINN., Nov. 28, 1906.

To the Editor:—I have the honor to transmit herewith the unanimous report of the Committee on Insurance. It will be noted that with a single exception this committee is composed of men who have had the honor of being elected president of the American Medical Association; not one of them makes insurance examinations. Therefore, their action must be looked on at least as disinterested and taken with the sole purpose of guarding the rights and interests of the individual member and upholding the honor and dignity of the profession as a whole. The investigations have lasted for months, including conferences with the officers of the leading companies which inaugurated the changes on which the complaints were based, and have been careful, thorough and impartial.

As the report shows, it is the opinion of all of us that the action of the companies was not only unwise, uncalled-for and unjust, but that the statement that it was made necessary by recent legislative acts in New York is not true. The New York Life, the original sinner in this movement against the profession, reduced the fees eleven years ago, and the Mutual and Equitable followed this bad example long before this legislation was passed.

Attention should be called, incidentally, to the fact that the New York Life Insurance Company has now reduced its fee to $2.50 in some localities, a reduction so small that it can only be construed as a direct insult to the medical profession. The fact that the Manhattan Company, one of the best managed of the New York companies, continues to pay a flat fee of $5, and informs me that they will continue to do so, is sufficient to refute the statement of the other New York companies. The Phoenix and the Commonwealth companies, which reduced the fee to $3, are now paying the $5 rate, and they, too, tell me that they shall continue to pay this rate.

I append a list of companies which pay a flat fee of $5 and whose officers assure me in recent letters that there is ample margin from their income to continue to do so. All, or nearly all, of these companies do business in New York, and all of them have not only dealt justly with their medical examiners, but have so managed all of their affairs as to escape scandalous charges. I am confident that the fee can be restored if the profession everywhere will act unitedly, promptly and conservatively.

Members of the committee were assured that some of the companies would be glad to restore the fee if the profession would unite in requesting it, and, in transmitting the report, I have no hesitation in urging county and state societies everywhere to take prompt action with this end in view.

We urge, however, that the will of the majority be not made a test of membership, but that kindness, forbearance and moral suasion be substituted for the old spirit of ostracism and exclusion.

W. J. MAYO, President, American Medical Association.

THE REPORT.

To the Medical Profession of the United States:—At the Boston session of the American Medical Association the undersigned were appointed as a committee to investigate and to report on the insurance-examination question. We were instructed to confer with the insurance companies which had reduced the medical examination fee from $5 to $3 and, if possible, to induce them to return to the original fee. Nothing could be done during the summer, owing to the fact that representatives of the companies, as well as some members of the committee, were absent on their vacations, either in Europe or at other distant points.

At the earliest opportunity after the vacation the matter was taken up with representatives of the Equitable, the Mutual and the New York life insurance companies. The last company, it will be remembered, had reduced its fees eleven years ago, and its officers declined at first to meet us in our official capacity. When this technicality was brushed aside it was found that none of these companies would restore the fee unless all should agree to do so. The New York Life Insurance Company apparently blocked the concerted action, essential to a restoration of the fee to $5, and a compromise proposition, made by us, was also rejected. Therefore, our efforts to influence the companies to restore the fee to a just and proper one have failed.

We were also instructed to make known to the profession, through THE JOURNAL or otherwise, the results of the negotiations with the companies, and to advise what policy should be pursued in the event of failure to have the fee restored. In doing this the following facts should be stated:

First.—The reduction of fees was made by the companies without consultation with their examiners, either collectively or individually.

Second.—The companies insist that they be left to deal with individual physicians and not with the profession as a whole.

Third.—On the other hand, they themselves have practically agreed to stand together in maintaining the reduced, insufficient and, we believe, unjust fee.

Fourth.—The companies claim that physicians' fees were reduced on account of the legislation in New York. The facts do not warrant this statement. The fee was reduced by the New York Life eleven years before the present law in New York was thought of, and by the others before it was proposed. The recent action of the Manhattan, a New York company, restoring the fee to $5, only emphasizes the correctness of our position on this point.

Fifth.—We find that the so-called economic measures instituted by these insurance companies have apparently been chiefly in the medical department, and that the medical department was almost the only one which was not smirched by the past history of extravagance practiced by the officers of the companies.

Sixth.—We believe that the companies can and should continue to pay a minimum fee of $5 for medical examinations, which seems to us to be a reasonable and just remuneration.

These are the facts, and we refer the question to the county and state societies for such action as they may deem wise and proper. We urge, however, that the will of the majority be not made a test of membership, in accordance with the modern idea in the profession that kindness and moral suasion should be substituted for the old methods of ostracism and exclusion in all of our work.

J. H. MUSSER, Chairman,
JOHN A. WYETH,
WM. J. MAYO,
FRANK BILLINGS,
J. N. MCCORMACK.

A PARTIAL LIST OF COMPANIES PAYING THE FLAT FEE OF $5.00.

North Western Mutual Life Insurance Co., Milwaukee.
Mutual Benefit Life Insurance Co., Newark, N. J.
Connecticut Mutual Life Insurance Co., Hartford.
The Manhattan Life Insurance Co., New York.
Ætna Life Insurance Company, Hartford.
The Provident Life and Trust Company, Philadelphia.
Commonwealth Life Insurance Co., Louisville, Ky.
Boston Mutual Life Insurance Company, Boston.
Citizens Life Insurance Company, Louisville, Ky.
New England Mutual Life Insurance Company, Boston.
Massachusetts Mutual Life Co., Springfield, Mass.
National Life Insurance Co., Montpelier, Vt.
Pacific Mutual Life Insurance Company of California, Los Angeles.

Medical and Sanitary Geography of Turkey.—The Constantinople correspondent of the *Lancet* states that the Imperial School of Medicine in Contantinople is about to publish a book containing information regarding the internal conditions and natural features of the country such as the population, climate, rainy seasons, and other meteorologic incidents, endemic maladies, nature and peculiarities of the soil in various districts, lakes and rivers, thermal baths, medicinal springs, etc. This publication will be issued under the direct supervision and editorship of the authorities of the school. The facts will be supplied by the sanitary inspectors and the medical men throughout the country. The book will be illustrated and will contain several maps. Descriptions of certain methods of treatment and of hygiene and prophylactic measures used in different localities will also be noted.

Miscellany

A German View of Specialism.—In the *Münch. medizinische Wochenschrift*, June 19 and 26, 1906, Dr. H. Quincke, Kiel, contributes an interesting discussion on the subject of specialties in medicine. He points out that in a great measure the multiplication of medical specialties is the result of a public demand. What is wanted of a medical man nowadays is the fullest qualifications and with the growth of medical science and with the widening of our knowledge, it becomes more and more difficult to satisfy the public in this regard. The specialist seems to it like a man of higher rank in the profession, a person not of last, but of first resort. Naturally, certain departments of medicine fall into the hands of special practitioners, such, for example, as major surgery, psychiatry, ophthalmology, the operations in ear disease and diseases of the urinary and genital organs. Besides these, however, there are a multitude of other specialties and Quincke makes a rather formidable classification of them as they seem to be recognizable under the several heads of: 1. Pathologic organ and system specialties which includes those generally recognized as such, surgery, ophthalmology, skin diseases, nervous disorders, etc. 2. Therapeutic specialties. 3. Specialties based on social and personal grounds, such as military surgeons, railroad physicians, corporation physicians, etc. 4. Specialties based on definite extra-medical demands such as medical jurisprudence, medical public officials, insurance examiners, etc. Under each of these categories he discusses their *raison d'être*. All these are independent of the purely research specialists, who may be instructed but are not generally at the public command as practitioners except so far as they fall under one of the heads referred to above. Between these various types of specialists and the general practitioner there is every possible gradation, but the fuller the specialization, the more focused the abilities to special departments, the more limited and one-sided is the view taken of the specialty. At least such is the tendency. We may classify the specialists also into those who gradually and naturally drift into their special practice and those who take it up deliberately from the beginning, some from special interest in the subject, others to avoid the inconveniences and unpleasantness of general practice. Quincke remarks here that on the whole it takes less study, diligence and natural endowments to make a good specialist than a good practitioner, and yet with the public the specialist is the more highly rated man. The result of this multiplication of specialties and specialists is too often the fact that the patient regards himself as a bundle of special ailments and does not appreciate the necessity of his physician having a broad general view of the medical possibilities in his case. Quincke also states that the tendency on the part of medical organizations to exclude specialists from general practice is in a measure to be deplored, as it widens the cleft already existing and seems to be the expression of a somewhat unjust leveling idea among physicians; he thinks that it is practicable only in case of the office specialist like dentists, ophthalmologists and otologists. The question of who shall be regarded as specialists is discussed at some length by Quincke, and he points out the objections and difficulties in the way of any standard that can be adopted. He doubts the propriety of insisting on absolute limitations as to practice by medical societies and the profession. The question as to instruction in different special departments in medicine is also discussed at some length, and the importance and effects of the various special clinics on general medical instruction are pointed out. There is a tendency, he thinks, in this splitting up of clinical instruction that is not altogether favorable to the best interests of the student and the production of the necessary all-round man. The nervous diseases (excluding psychiatry) and children's (not infants') diseases are specially quoted as instances of what ought not to be separated from the general field of internal medicine.

Relative Mitral Stenosis.—Dmitrenko is convinced that the presystolic, diastolic murmur occurs more frequently in case of mitral incompetency than is generally recognized, even in the absence of absolute stenosis of the left auriculo-ventricular opening. He describes the findings in a case presenting this murmur during life, and yet the mitral valve was found free from stenosis. The patient was a child of 6, and both sides of the heart were enlarged, the organ being twice the normal size, but the lumen of the left auriculo-ventricular opening was not enlarged to correspond with the abnormal size of the left ventricle, although it was wider than normal. The dilatation of the left ventricle consequently induced a constant relative stenosis, which gave rise to an inorganic murmur of organic origin, if the paradoxical expression may be permitted. The difference of pressure between the two communicating cavities also hastened the blood stream. Various terms have been applied to this condition: spastic mitral stenosis, functional pseudostenosis and relative functional stenosis with aortic insufficiency and myocarditis, but as the same mechanism underlies these various conditions, Dmitrenko urges that they should all be classed as relative mitral stenosis to distinguish them from absolute stenosis. The distinction between organic and inorganic murmurs should be dropped, he says, as a murmur can develop only under certain physical conditions, and the latter can change only with changes in some organ or organs. The diastolic murmur in the case described was characteristic of excessive dilatation of the left ventricle. Dmitrenko's article is published in German in the *Allg. med. Ct.-Ztg.* for October 20.

A German Clergyman on Quacks.—The German popular magazine, *Der Deutsche*, contained in a recent issue an article by a clergyman, Pfarrer E. Grucker, describing the way in which he could follow the trail of certain quacks through many sick rooms in the various parishes he has had in his charge. The people were not always convinced that the quack's prescription would help them, "but at least," they said, "if it don't help it will do no harm." In one instance leg ulcers were treated with a swallow's nest mixed with pigeon manure and oil, applied on a piece of uncleansed wool taken from between the legs of a living sheep. Felons were treated by tying an angleworm around the finger, "that the worm outside might kill the worm inside causing the trouble." The diagnosis was made by one popular irregular from an article of clothing brought from the sick person, for whom he then prescribed with confidence. Many of the strange, hocus-pocus performances ordered by the quacks are described as Grucker had occasion to observe their execution. He adds: "But not only in the backwoods villages were the quacks found to be rampant. Even in the great cities there are many dark corners where fortune tellers and charlatans are lurking like spiders waiting for their prey." He dwells also on the pity of it that the poor should waste time and money on such practices while neglecting rational means of certain relief from duly qualified medical men.

Epilepsy of Reflex Origin.—Frey and Fuchs of Vienna presented a report on this subject at the Lisbon Congress which is republished in the *Archives Internat. de Laryngologie*, XXII. No. 2. They found in the literature 92 cases in which epilepsy was ascribed to some affection of the ear, nose or pharynx, and was presumably cured by correction or cure of the affections in question. In their own experience with 112 cases of epilepsy, 30 of the patients had some affection of the ear, nose or pharynx, but the epilepsy did not seem to be influenced by the local treatment except in a very few instances. On the whole, however, they conclude that persons with a predisposition for epilepsy may have this latent condition fanned to a flame by some affection of the nose, ear or throat or foreign body, possibly more readily than by any other peripheral irritation. Relief of the local affection does not cure the predisposition to epilepsy, but it removes the inciting cause and may thus be followed by great improvement. Statistics show that affections of the ear, nose and throat are more liable to induce convulsions in the predisposed than other peripheral irritations. Eynis reports in the *Vrach. Gaz.* this year a further list of cases from his own experience confirming the above conclusions. In one case frequent epileptiform seizures in a man of 50 vanished completely after removal of hardened wax from the ears.

Osler One of the Biggest in the Bunch.—In one of his recent syndicate letters in the Chicago *Record Herald*, Mr. W. E. Curtis, writing from Oxford, has this to say of Dr. Osler: Dr. Osler, who went over from Johns Hopkins last year, is a real "professor" and is recognized as one of the biggest in the bunch. He is regius professor of medicine in Christ Church College, succeeding the late Sir John Burden-Sanderson. The chair was founded by King Henry VIII. All chairs founded by him are known as "regius professorships." Dr. Osler, however, has charge of all the medical instruction at Oxford University and is giving public clinics at the Radclyffe Infirmary, which are attended regularly by every medical student, by the local surgeons, and by several students from the medical colleges in London, who come down especially to witness them. Several enthusiastic disciples have followed him over to Oxford from Johns Hopkins. He has been the hero of the year. He was given a splendid reception; was immediately made a member of everything worth belonging to, and was offered a share in everything that is good. Dr. Osler has just bought himself an attractive home at No. 13 Northam Gardens, on the outskirts of Oxford, and will be settled in a few weeks.

Deficient Provision for the Injured.—Like the insurance companies, railroads are niggardly with their surgeons. At a recent accident on the Pennsylvania Railroad at Paoli, Pa., where seven men were killed while sitting in their train at the station waiting for it to start, the company seemed not to have a physician between Philadelphia and Harrisburg available to send and sent out the command, "Call in the local doctors." To this behest the local doctors responded promptly, yet were never reimbursed for their work of caring for the injured, declared the *Medical Times*. If the Pennsylvania Railroad, which is regarded as the standard, is so niggardly, what of the other lines?

Pulmonary Gangrene Following Submersion.—A. Bergé (*Bull. et Mém. Soc. Méd.*, Paris, May 3, 1906), reports a case of pulmonary gangrene occurring in both lungs, one after the other, in a patient after submersion with suicidal intent, and calls attention to the possibility of septic germs thus penetrating the bronchioles. It is also necessary to consider, he thinks, that the methods employed in resuscitation, together with the shock, mental depression, etc., may have had their share in the production of the conditions. The interest of the case is mainly in its calling attention to this possible accident in persons resuscitated from drowning.

Association News

NEW MEMBERS.

List of new members of the American Medical Association for the month of November, 1906:

ALABAMA.

Cameron, M. B., Eutaw.
Cryer, G. A., Eclectic.
Gewin, Wm. C., Birmingham.
Harris, J. O., Jr., Childersburg.
Hughes, M. P., Gadsden.
Malloy, M. L., Eutaw.
Sugg, T. L., Ensley.
Waldrop, Wm., Bessemer.

ARKANSAS.

Connally, D. W., Rocky.
Southworth, R., Jr., Fayetteville

CALIFORNIA.

Bush, Camillus, San Francisco.
Cohn, R. D., San Francisco.
Howitt, H. O., San Rafael.
Lewis, A. P., Sutter Creek.
Luton, G. R., Los Alamos.
Marvin, G. D., Agnew.
Muller, C. L., Nevada City.
Newman, Alfred, San Francisco.
Outlaw, J. R., Los Angeles.
Robertson, John, San Francisco.
Stirewalt, H. W., San Francisco.
Sunburst, Walter, Florinton.
Surryhne, B. F., Modesto.
Thomas, V. C., San Francisco.

COLORADO.

Buck, Wm. E., Pueblo.
Carmody, T. E., Denver
Graves, C. H., Canyon City.
Guthrie, A. B., Denver.
Hurdman, A. G., Denver.
Olmsted, G. K., Denver.
Williams, B. T., Pueblo.

CONNECTICUT.

Isham, O. K., Hartford.
Mead, Kate C. H., Middletown.
Robinson, Joseph, West Cornwall.

DELAWARE.

Burton, H. R., Lewes.
Martin, J. M., Lewes.
Rumford, S. C., Wilmington.

DISTRICT OF COLUMBIA.

Dixon, T. B., Washington.
Egbert, E. H., Washington.

FLORIDA.

Heggie, N. M., Jacksonville.
Phillipa, N. R., Graceville.
Powers, W. H., Ocala.

GEORGIA.

Block, E. B., Atlanta.
Mathews, A. J., Thomson.
Moncrief, J. T., Columbus.
Moorman, Ivy W., Ambrose.
Taylor, N., Wesley.
Weaver, J. Calvin, Thomaston.

IDAHO.

Aspray, Joseph, Moscow.
Harris, F. T., Wallace.
McCalla, L. P., Boise.
Quigley, F. L., Wardner.

ILLINOIS.

Alvarez, Manuel, Chicago.
Blair, J. W., Harvey.
Earnheart, E. G., Dongola.
Gernsey, H. N., Dover.
Hall, J. W., Chicago.
Hinckle, W. A., Peoria.
McElfresh, C. H., Springfield.
Metz, I. W., Springfield.
Nauth, D. F., Rockford.
Neer, I. E., Edinburg.
Nichols, H. J., Quincy.
Ogram, A. J., Jacksonville.
Sabin, F. A., Anna.
Sheller, W. O., Big Rock.
Toalson, J. J., Peoria.
Weld, J. C., Hospital.
Werner, A. W., Quincy.

INDIANA.

De Haas, T. W., Indianapolis.
Dobbins, A. O., Wheeler.
Graham, O. P., Jeffersonville.
Jobes, Norman E., Indianapolis.
Wood, N. S., Anderson.

INDIAN TERRITORY.

Grubbe, J. O., McAlester.
Madden, C. F., Okra.

IOWA.

Connolly, Wm., Cresco.
de Bey, Albert, Orange City.
Diamond, J. J., Webster City.
Dunkelberg, B. C., Tripoli.
Helea, J. R., Dubuque.
Hull, A. R., New Sharon.
Koch, B. G., Afton.
Jamison, O. P., Weldon.
Little, G. B., Burlington.
Magee, C. H., Burlington.
Mills, E. M., Le Grand.
Moorhead, G. C., Ida Grove.
Peterson, Emma H. S. Ottumwa.
Rogers, C. B., Earlville.
Smith, J. C., Woolstock.
Smith, R. C., Columbia.
Stillman, W. L., Anthon.
Stutsman, Carl, Burlington.
Thornber, A. J., Burlington.
Wall, C. D., Davenport.
Wilson, E. W., Rolfe.

KANSAS.

Breeding, W. R., Marysville.
Campbell, D. W., Atchison.
Cavanaugh, J. J., Walnut.
Johnson, F. T., Cottonwood Falls.
Johnson, W. N., Columbus.
Krugg, A. A., Coffeyville.
Liggett, G. S., Oswego.
Lowdermilk, R. Claude, Galena.
Marcotte, O. F., Clyde.
Masterson, Anna K., Kansas City
Mayer, H. M., Peabody.
McMullen, V., Burlington.
Miller, C. M., Oakley.
Payne, E. B., Ft. Scott.
Petty, C. N., Altamont.
Salisbury, H. T., Burlington.
Sheeler, D. W., Denton.
Smith, F. R., Little Rock.
Smith, N. M., Marion.
Staats, J. H., Bushton.
Werthner, J., Marion.

KENTUCKY.

Allen, B. G., Somerset.
Broaddus, C. L., Wallonia.
Dink, J. R., Brandenburg.
Griffin, T. R., Somerset.
Means, R. M., Morganfield.

LOUISIANA.

Calhoun, J. C., Mansfield.
Halsey, J. T., New Orleans.
King, H. D., New Orleans.
Knoefel, A. Eugene, Jones.
Pettit, Absolom, New Orleans.
Willis, J. C., Shreveport.

MAINE.

Fickett, J. P., Naples.

MARYLAND.

Follis, R. H., Baltimore.
Harris, E., Cumberland.
Lasenby, Maurice, Baltimore.
O'Neill, F. P., Midland.

MASSACHUSETTS.

Burke, M. F., Natick.
Hayes, J. E., Chesterfield.

MICHIGAN.

Adams, A. W., Bellevue.
Black, D. K., Greenville.
Cameron, T. P., Detroit.
Davis, Clara M., Lansing.
Eades, H. A., Bay City.
Erwin, C. R., Hartland.
Ford, W. D., Detroit.
Garvin, W. C., Millington.
Lowrie, G. B., Detroit.
Scott, J. W., Sandusky.
Sigler, H. F., Pinckney.
Tomlinson, J. W., Deward.
Walker, R. J., Saugatuck.
Yarrington, C. W., Calumet.

MINNESOTA.

Anderson, W. S., Warren.
Burnap, W. L., Pelican Rapids.
Crewe, J. R., Rochester.
Fryberger, W. O., Minneapolis.
Gans, E. M., Eveleth.
Gilkinson, A. J., Osakis.
Law, A. A., Minneapolis.
Morrison, G. G., Owatonna.
Nelson, L. A., St. Paul.
Schulze, George, Owatonna.
Soper, J. R., Norwood.
Stumm, T. W., St. Paul.

MISSISSIPPI.

Nangle, A. K., Abbott.
Vaughan, J. W., Potts Camp.

MISSOURI.

Bickel, J. T., Winston.
Billings, J. M., Lebanon.
Brown, D. T., Stahl.
Browne, H. H., Condray.
Carryer, C. H., Unionville.
Carr, R. F., Polo.
Carson, G. W., St. Louis.
Clarke, J. W., Conway.
Charles, J. W., St. Louis.
Chastain, E. N., Butler.
Craig, L. B., Salem.
Ellery, W., Hagerange.
Elliott, W. H., Bunceton.
Ely, A. W., Monroe City.
Farnsworth, A. D., Drexel.
Fox, S. D., St. Louis.
Gardner, E. Waldron.
Geltz, H. A., St. Louis.
Greiner, Theodore, St. Louis.
Hume, J. Y., Armstrong.
Humphrey, B. F., Hardland.
Johnson, E. H., St. Louis.
Levy, Aaron, St. Louis.
Lightfoot, Frank, Excelsior Springs.
McCall, T. D. S., Marionville.
McGlasson, F. F., Lewistown.
Mason, W. J., Waubleau.
Montgomery, E. A., Unionville.
Oslas, C. O., Warrensburg.
Pierce, Don, Newark.
Roberts, J. C., Boynton.
Robertson, J. M., Bunceton.
Rothwell, J. H., Liberty.
Schuls, G. R., Cape Girardeau.
Sevier, R. E., Liberty.
Smith, E. S., Macon.
Spencer, H. N., St. Louis.
Stevenson, F. S., Aurora.
Stone, J. M., Laredo.
Taylor, J. T., Speed.
Thompson, W. L., Armstrong.
Tompkins, Junius, Canton.
Townsend, W. H., Maplewood.
Wilkens, J. A., St. Mary.
Winningham, W. H., Trenton.
Wiseman, L. F., Monticello.
Yater, J. M., Nevada.

MONTANA.

Anthony, T. B., San Coulee.
Bradley, E. I., Virginia City.
Rinehart, J. H., Billings.

NEBRASKA.

Brown, J. A., Friend.
Compton, A. N., Valentine.
Crosby, W. L., Beemer.
Foote, J. S., Omaha.
Hart, R. L., Amherst.
Jenison, A. J., Harvard.
Summers, H. S., West Point.

NEVADA.

West, C. W., Edgemont.
Ingham, S. D., Merchantville.
Sandy, W. C., Trenton.
Underwood, C. F., Newark.

NEW MEXICO.

Bessette, A. E., San Marcial.
Breeding, A. L., Texico.
Markoe, W. W., Fort Stanton.

NEW YORK.

Bastedo, W. A., New York City.
Betts, G. W., Pulaski.
Brady, William, Penn Yan.
Carroll, G. G., Rochester.

Cummins, T. J., Plattsburg.
Diehl, A. E., Buffalo.
Dow, F. L., New York City.
Godson, C. H., New York City.
Godfriend, N., New York City.
Hahn, Leopold, New York City.
Hinkley, Frank, Central Islip.
Houghton, G. H., Albany.
Ives, F. M., New York City.
Josiin, Edward, Whitehall.
Keyes, F. P., Brooklyn.
Loper, A. C., Greenport.
MacKenzie, S. S., Bolivar.
Mills, Adelaida, New York City.
Mooney, G. S., Yonkers.
Qua, Julia K., Amsterdam.
Stern, Maximilium, New York City.
Stetter, Dewitt, New York City.
Van Doren, G. B., Watertown.
Vaughan, H. S., New York City.
Walker, L. A., Rochester.
Wixson, R. H., Niagara Falls.

NORTH CAROLINA.

Ashworth, B. L., Marion.
Barrier, P. A., Mt. Pleasant.
Flippin, S. T., Siloam.
Harrell, S. N., Tarboro.
Linville, A. Y., Winston Salem.
Miles, May S., Greensboro.
Moseley, C. W., No. Wilkesboro.
Myers, J. A., Linwood.
Nalle, B. C., Charlotte.
Reid, R. M., Gastonia.
Taylor, W. S., Mt. Airy.
White, J. W., Wilkesboro.

NORTH DAKOTA.

Boardman, H. P., Oakes.

OHIO.

Bidwell, P. J., Toledo.
Burnham, R. D., Piqua.
Clisby, G. C., Kinsman.
Crotty, Nora, Cincinnati.
Dell, A. J., Middletown.
Englebry, F. E., Vermillion.
Furste, W. L., Cincinnati.
Evans, S. W., Cleveland.
Hausser, Gustav, Cincinnati.
Hawley, C. M., Painesville.
Ingersoll, A. J., Painesville.
Jordan, A. B., Marblehead.
Keller, W. S., Cincinnati.
Learning, J. H., Vienna.
Lindsay, W. A., Amsterdam.
Marshall, W. J., Dayton.
Metz, J. A. E. Livernool.
Michael, F. M., Eaton.
Noble, G. E., St. Marys.
Patterson, S. J., New Waterford.
Peppard, D. W., Mansfield.
Pomerene, H. P., Canton.
Root, H. L., Kinsman.
Rowe, J. W., Cincinnati.
Rust, F. G., Cleveland.
Simmons, S. E., Norwalk.
Smith, A. B., Springfield.
Smith, R. W., Spring Valley.
Taylor, W. S., Alliance.
Waite, F. C., Cleveland.
Werk, G. H., Cincinnati.
Wright, L. M., Brookfield.
Zopf, W. J., Finuay.

OKLAHOMA.

Riley, J. W., Oklahoma City.

OREGON.

Locke, J. K., Portland.
Patterson, C. G., Baker City.

PENNSYLVANIA.

Baker, Jane R., Embreeville.
Bickel, E. F., Shamokin.
Campbell, W. L., New Castle.
Davies, W. R., Scranton.
Douglas, H. R., Newville.
Fletcher, W. W., Williamsport.
Hammer, A. W., Philadelphia.
Hill, C. C., Meadville.
Lathrop, H. B., Springville.
Levering, E. H., Stroudsburg.
Lippert, Frieda E., Philadelphia.
Loewenberg, S. A., Philadelphia.
Mackey, N. C., Waverly.
McConvill, W. T., Honesdale.
Noble, H. C., Waymart.
Spiro, Marcus, Allegheny.
Zeller, C. A., Dalton.

RHODE ISLAND.

Beale, S. M., Hope Valley.

SOUTH CAROLINA.

Coan, W. P., Spartanburg.
Darwin, J. T., Gaffney.
Guignard, J. B., Columbia.
Jackson, O. L. P., Union.
Jones, C. C., Greenville.
Salley, M. T., Orangeburg.
Sexton, W. G., Spartanburg.
Teague, J. H., Laurens.

SOUTH DAKOTA.

Deertz, J. J., Northville.
Sprecher, S., Tripo.
Walsh, J. M., Fort Pierre.

TENNESSEE.

Braun, W. T., Memphis.
Buford, G. G., Memphis.
Drake, C. M., Knoxville.
Drennan, G. T., Bell Buckle.
Fritts, J. S., Harriman.
Lockeit, W. R., Knoxville.
Lovell, C. M., Erickson.
McSwain, J. H., Paris.
Newman, A. T., Jellico.
Roberts, J. M., Kingston.
Sanford, J. W., Ripley.

TEXAS.

Bullock, H. F., McGregor.
Burnside, A. L., Wichita Falls.
Hudson, Samuel B., Sanderson.
McMullen, Oscar S., Goliad.
Noster, Alfred H., New Braunfels.
Pollock, A. S., Big Sandy.
Reeves, J. W., Athens.
Stout B. F., San Antonio.
Taylor, G. A., Bettie.
Whiteside, Robert Brown, Durango.
Wilkes, William O., Waco.
Wood, W. E., Elgin.

UTAH.

Flood, Thos. A., Gold Springs.

VIRGINIA.

Carr, Geo. H., Portsmouth.
Hicks, R. L., Warrenton.
Miles, H. M., Wise.

WASHINGTON.

Balabanoff, I. P., Tacoma.
Gunning, J. M., Harrington.
Hartt, S. W., Port Angeles.
Hein, Ernst T., Palouse.
Newman, W. M., Spokane.
Smith, Geo. B., Anacort s.
Wiger, N. N., Seattle.

WEST VIRGINIA.

Banks, McRoe C., Raleigh.
Thomas, W. N., Monongah.
Sutherland, J. H., St. Albans.
Talbott, W. E., Harrisville.

WISCONSIN.

Andrews, Nell, Jr., Oshkosh.
Betz, Jonathan C., Boscobel.
Erlanger, Joseph, Madison.
Lewis, G. A., Tunnel City.
Werner, R. F., Eau Claire.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

LESSONS IN POLISH.

BUFFALO, N. Y., Nov. 25, 1906.

To the Editor:—In last week's issue a correspondent requests information concerning aids to learning Polish. Permit me to call attention to Holtze's "English-Polish Conversation Book," $1.10, and Holtze's "English-Polish and Polish-English Pocket Vocabulary," $2.20 (half morocco), both sold by Koelling & Klappenbach, 106 Randolph St., Chicago. They also sell several other works, in German, on Polish grammar and conversation. The two abovementioned are also obtainable in German. This firm advertises several hundred English and German grammars, dictionaries, and guides to conversation in many languages, including all the tongues of modern Europe, and even Chinese, Japanese, Native African, etc. Their catalog is sent gratis. O. R. E.

RENGO FOR OBESITY.

PHILADELPHIA, Nov. 21, 1906.

To the Editor:—I enclose, herewith, a sample of an obesity cure, known as "Rengo," and I am writing to ask if you know anything about this preparation. I have a particular interest in ascertaining just what its action may be, as I learned that a person who is very near to me has been taking it without my knowledge, and I am anxious to know whether or not it is of any value in obesity and if it is dangerous. E. C.

ANSWER.—The composition of this nostrum was given in THE JOURNAL, Nov. 17, 1906, page 1628, in the paper by Dr. L. F. Kebler, entitled "Nostrums and Fraudulent Methods of Exploitation."

THE CONTAGIOUSNESS OF DIPHTHERIA.

CLARENDON, ARK., Nov. 21, 1906.

To the Editor:—A peculiar condition exists here concerning which I would like the comment of THE JOURNAL. This is a town of 4,000 population in which there has never been a case of diphtheria diagnosed; nor is there at present any epidemic in its vicinity. On November 6 a child of 2 or 3 years began complaining with the symptoms of croup. It was up during the day, but had croupy spells at night. A physician saw it, November 9 or 10. The condition continued much the same, and the child looked well Monday, November 12. Another physician was called in about this time and a suspicion of diphtheria was entertained, but no exclusion from the sick room was instituted. On the morning of November 14 an injection of antitoxin was given. At about 3 p. m. the same day another physician saw the patient in consultation and pronounced the case to be one of follicular tonsillitis, pharyngitis, laryngitis and pneumonia. He could see no membrane. The child died at about 4 p. m. the same day. A smear from the throat was sent to a bacteriologist, whose report received November 16 confirmed the diagnosis of diphtheria. On November 17 a quarantine was ordered and those of the children that had been directly exposed were ordered to be immunized with antitoxin. Since the incubation period for diphtheria is 2 to 7 days, oftenest 2, how can we reconcile this diagnosis with the exposures and yet no other cases? The room was frequented by adults and children from the beginning of the case to the time of death. The home has 10 or 12 boarders. After the antitoxin was given several children were permitted to kiss the child. As the injection of the serum was not begun until November 17 the children had from 3 to 11 days as an incubation period and none over 15 were injected. It is now November 21 and no cases have occurred, and we are to have another week of quarantine. Is it possible to believe it was diphtheria in spite of the bacteriologic diagnosis? Is there need of a quarantine after the incubation period of 7 days has elapsed since the last possible exposure, unless a new case should develop? A. H. GILBRECH, M.D.

ANSWER.—In the above case the bacteriologic findings from the child's throat, and the clinical history of the case, though brief and imperfect—the pulse and temperature are not even mentioned—lead us to believe the disease in question to be laryngeal diphtheria, resulting, as is often the case, in bronchopneumonia and death. In the beginning of the attack there were "symptoms of croup." The patient grew worse, and, after a period of 11 days, died. On the day of death, it is stated, there was found present: "follicular tonsillitis, pharyngitis, laryngitis and pneumonia." No membrane was seen. Membrane may be present in the larynx and at the same time absent in the pharynx. Antitoxin administered 3 days previous to the time of the examination may have had some influence in removing membrane from the pharynx, if any had formed there. To the clinical evidence there was added the further evidence of the presence in the throat of the diphtheria bacilli. It would be unwise to disregard this evidence. A case of croup, the exciting cause of which is in dispute, growing worse for 11 days, terminating in pneumonia and death, with the diphtheria and bacilli present in the throat, is most likely to be laryngeal diphtheria. It is safe practice to treat all cases of croup as of diphtheritic origin until proved otherwise. An early positive diagnosis can not be made without the use of the microscope. Even a late positive diagnosis can not be made, in many cases, without the aid of the microscope. We should not pretend to make a diagnosis in the acute anginas of the throat without the evidence obtainable by the use of the microscope. The lives of our patients depend on an early diagnosis in cases of diphtheria. The fact that diphtheria is neither endemic nor epidemic in Clarendon, and the further fact that a number of persons who were exposed escaped the disease can be placed against the opinion that the case was diphtheria for what these facts are worth. Clarendon's immunity from diphtheria can easily be broken. Diphtheria germs can find their way to remote parts of the country and be introduced into the houses on fruit, vegetables, groceries and various articles received for use. And then there is the traveler who may be convalescent from diphtheria, but still spitting infection from his throat somewhere to be a menace to someone. Some-

one from Clarendon at some time will visit an infected locality. Because none who were exposed fell victims to the disease does not disprove diphtheria, though we would expect some would contract diphtheria after such an exposure. On the other hand, one member of a family may be sick with diphtheria and all others escape, though living in the same house and constantly exposed. Quarantine, after the premises and persons in the house have been disinfected, need not be kept up longer than the incubative period. Eight days can be regarded as a maximum period for isolation of those exposed to diphtheria. Inasmuch as the diphtheria bacilli may sometimes remain in healthy throats without producing diphtheria, the more scientific and accurate way of terminating a quarantine is to make two or three microscopic examinations of cultures from the throat in two or three consecutive days. The absence of diphtheria bacilli at these examinations should terminate the restrictions.

The Public Service

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service during the week ended November 30, 1906:

SMALLPOX—UNITED STATES.

Georgia: Augusta, Nov. 13-19, 9 cases.
Illinois: Galesburg, Nov. 11-17, 16 cases.
Indiana: South Bend, Nov. 11-17, 6 cases
Missouri: St. Louis, Nov. 11-17, 1 case.
Louisiana: New Orleans, Nov. 11-17, 4 cases.
New York: New York, Nov. 11-17, 1 case.
North Carolina: Greensboro, Nov. 11-17, 3 cases.
Oregon: State, Oct. 1-31, 7 cases.
South Carolina: Greenville, Nov. 11-17, 1 case.
Utah: State, Oct. 1-31, 33 cases.
Wisconsin: Appleton, Nov. 11-17, 1 case; Milwaukee, 2 cases.

SMALLPOX—FOREIGN.

Africa: Cape Town, Oct. 7-13, 4 cases.
Austria: Bohemia, Oct. 12-18, 8 cases; Bukowina, Sept. 30-Oct. 6, 1 case; Galicia, Sept. 30-Oct. 20, 28 cases.
Brazil: Bahia, Oct. 7-27, 15 cases, 1 death; Rio de Janeiro, Oct. 15-21, 4 cases.
Chile: Antofagasta, Oct. 14-24, 5 cases; Coquimbo, Oct. 11-21, 27 cases, 2 deaths.
Egypt: General, June 4-July 1, 14 cases, 20 deaths.
Great Britain: Manchester, Oct. 27-Nov. 3, 3 cases.
India: Calcutta, Oct. 14-20, 1 death; Madras, Oct. 6-26, 1 death.
Italy: General, Nov. 2-8, 3 cases.
Peru: Lima, Oct. 21-27, present.
Russia: Moscow, Oct. 21-27, 3 cases, 1 death; Odessa, Oct. 15-Nov. 3, 16 cases, 2 deaths; St. Petersburg, Oct. 14-27, 6 cases, 1 death.
Spain: Barcelona, Nov. 1-10, 8 deaths; Cadiz, Oct. 1-31, 6 deaths.
Uruguay: Montevideo, Aug. 1-31, 2 deaths.

YELLOW FEVER.

Cuba: Havana, Nov. 21-27, 7 cases, 2 deaths; Santa Clara Province, Rodas, Nov. 18-25, 1 case.
Mexico: Vera Cruz, Nov. 11-14, 1 case, 1 death.

CHOLERA—INSULAR.

Philippine Islands: Manila, Sept. 29-Oct. 13, 16 cases, 15 deaths; Provinces, Sept. 29-Oct. 13, 348, 248.

CHOLERA—FOREIGN.

China: Hankow, Oct. 8-14, 24 deaths; Shanghai, 25 cases.
India: Bombay, Oct. 24-30, 4 deaths; Calcutta, Oct. 14-20, 34 deaths; Madras, Oct. 20-26, 2 deaths; Rangoon, Oct. 14-20, 1 death.

PLAGUE.

Australia: Sydney, Oct. 1, 1 case.
Austria: Trieste, Nov. 8, 1 death.
Brazil: Bahia, Oct. 14-27, 4 cases, 2 deaths; Rio de Janeiro, Oct. 15-21, 19 cases, 4 deaths.
Egypt: Alexandria, Oct. 22-28, 3 cases, 2 deaths; Mineh Province, Oct. 26-28, 5 cases; Garbieh Province, Tanta, Oct. 22-28, 1 case; Port Said, Oct. 22-28, 1 case, 1 death; Suez, 2 cases, 1 death.
India: General: Oct. 14-20, 6,278 cases, 4, 760 deaths; Bombay, Oct. 24-30, 27 deaths; Rangoon, Oct. 16-20, 27 deaths; Calcutta, Oct. 14-20, 7 deaths.

Public Health and Marine-Hospital Service.

List of changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended Nov. 28, 1906:

Wertenbaker, C. P., surgeon, granted leave of absence for three months from December 1.

Blue, Rupert, P. A. surgeon, granted leave of absence for five days from December 1.

von Esdorf, R. H., P. A. surgeon, leave of absence for fourteen days from November 21, amended so as to be effective November 22.

McCoy, G. W., P. A. surgeon, directed to report to Director of Hygienic Laboratory for temporary duty.

Boggess, J. S., asst.-surgeon, directed to report to board of officers convened to meet at Ellis Island, N. Y., December 10, 1906, for examination for promotion to grade of P. A. surgeon.

Smith, F. C., asst.-surgeon, relieved from duty at Perth Amboy, N. J., and directed to proceed to Fort Stanton, N. M., for duty and assignment to quarters, after Asst.-Surgeon E. H. Mullan has familiarized himself with the service at Perth Amboy.

Mullan, E. H., asst.-surgeon, relieved from duty at Ellis Island, N. Y., and directed to proceed to Perth Amboy, N. J., for instructions relative to quarantine duties at that port.

Goldsborough, R. W., acting asst.-surgeon, granted leave of absence for eight days beginning December 1.

Hume, Lea, acting asst.-surgeon, granted leave of absence for one month from November 27.

Tarbell, B. C., acting asst.-surgeon, granted leave of absence for twenty days from December 1.

Richardson, S. W., pharmacist, relieved from duty at Vineyard Haven, Mass., and directed to proceed to Buffalo, N. Y., for duty.

Hall, L. P., pharmacist, granted leave of absence for seven days from November 21, under Paragraph 210 of the Regulations.

BOARD CONVENED.

A board of medical officers will be convened at Ellis Island, N. Y., on Dec. 10, 1906, for the purpose of examining Asst.-Surgeon J. S. Boggess to determine his fitness for promotion to the grade of P. A. surgeon. Detail for the board, Surgeon P. H. Ballbachs, chairman; Surgeon G. W. Stoner; P. A. Surgeon John McMullen, recorder.

Navy Changes.

Changes in the Medical Corps, U. S. Navy, for the week ending Dec. 1, 1906:

Mink, O. J., asst.-surgeon, discharged treatment Naval Hospital, Yokohama, Japan; to home.

Furlong, F. M., surgeon, detailed for special temporary duty during the preliminary trial of the U. S. S. *Vermont*.

Lumsden, G. P., surgeon, to report to the president of the Naval Medical Examining Board, Washington, D. C., for examination preliminary to promotion, on Dec. 4, 1906, and when discharged by the board, await orders.

Higgins, S. L., asst.-surgeon, appointed an assistant surgeon in the Navy from Nov. 12.

Page, J. E., surgeon, detached from duty at the Naval Hospital, Norfolk, Va., and to duty on the U. S. S. *Milwaukee*.

Webb, U. R., P. A. surgeon detached from duty at the Naval Torpedo Station, Newport, R. I., and to duty at the Naval Hospital, San Juan, P. R., as the relief of P. A. Surgeon E. M. Blackwell.

Blackwell, E. M., P. A. surgeon, detached from duty at the Naval Hospital, San Juan, P. R., and to home and wait orders.

Neilson, J. L., P. A. surgeon, to temporary duty at the Naval Torpedo Station, Newport, R. I.

Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, week ending Dec. 1, 1906:

Morris, Samuel J., asst.-surgeon, granted six days' leave of absence to take effect about Nov. 24, 1906.

Skinner, Geo. A., asst.-surgeon, relieved from temporary duty at Fort Snelling, Minn., and to return to Fort William H. Harrison, Mont.

Gregory, J. C., asst.-surgeon, ordered to proceed from San Francisco to Presidio of Monterey, Cal., for temporary duty.

Truby, Albert E., asst.-surgeon, having reported arrival at Newport News, Va., from duty in Cuba, will report in person to Surgeon General of the Army for consultation, and on completion thereof will proceed to join his station, Presidio of San Francisco.

Cowper, H. W., asst.-surgeon, left Havana, Cuba, Nov. 27, 1906, *en route* to Army General Hospital, Washington Barracks, D. C., for treatment.

Reagles, James, contract surgeon, left Fort Keogh, Mont., and arrived at Fort Ontario, N. Y., for duty.

Allen, Ira A., contract surgeon, granted sick leave of absence for one month.

Stuckey, Harrison W., contract surgeon, returned to Fort Snelling, Minn., from leave of absence.

Davis, Oscar F., contract surgeon, left Fort Des Moines, Iowa, on leave of absence for three months.

Slater, Ernest F., contract surgeon, returned to Fort Hancock, N. J., from leave of absence.

Ashburn, James K., contract surgeon, granted an extension of one month to his leave of absence.

Hutson, T. Ogier, contract surgeon, ordered from Fort McPherson, Ga., to Fort Moultrie, S. C., for temporary duty.

Marriages

VIOLA M. FRENCH, M.D., and A. H. DeLane, both of Neillsville, Wis., October 13.

DOUGAL BISSELL, M.D., to Miss Helen Nutting, both of New York City, November 21.

ROBERT L. TERRITTS, M.D., to Miss Jean Durlacher, both of Laramie, Wyo., November 20.

LEVI SAUNDERS, M.D., to Miss Frances Alla Jackson, both of Lancsville, Mass., November 21.

RONALD TAYLOR ABERCROMBIE, M.D., to Miss Jennie Scott Waters, at Baltimore, November 21.

CHARLES A. COFFIN, M.D., Kewanee, Ill., to Miss Fannie E. Thorp of Guelph, Ont., November 21.

CHARLES C. CRAWFORD, M.D., Cleveland, to Miss Clara Wooley of Bowling Green, Ohio, November 19.

J. HENRY LUDWIG, M.D., Boyerton, Pa., to Miss Edwinna Herbein of Earlville, Pa., November 22.

ROBERT BARKER COFIELD, M.D., Cincinnati, to Miss Myrtle Del Hedrick of Muncie, Ind., October 10.

HERMAN H. ALBERS, M.D., Allenton, Wis., to Miss Ina Victoria Illian of Milwaukee, November 21.

WILLIAM HENRY STRATFORD, M.D., Austin, Chicago, to Miss Marguerite Ray of Chicago, November 21.

JOHN MILTON EDWARDS, M.D., to Miss Clara Elizabeth Gerlick, both of Mankato, Minn., December 5.

JAMES M. FENTON, M.D., to Miss Mary E. Quinlan, both of Baltimore, at Union Hill, N. J., October 30.

KIRK R. TEACHNOR, M.D., to Miss Elizabeth C. Barger, both of Leesburg, Ohio, at Carrollton, Ky., June 5.

F. W. SEEGERS, M.D., Collins, Wis., to Miss Mamie Schmeichel of Petersburg, Wis., November 21.

OTTO W. KNEWITZ, M.D., East St. Louis, Ill., to Miss Elizabeth Wildy of New Athens, Ill., November 3.

ALEXANDER J. WILLIAMS, M.D., Racine, Wis., to Miss Ruth M. Boyce of Sturgeon Bay, Wis., November 18.

CHARLES B. CORTRIGHT, M.D., Brooklyn, N. Y., to Miss Elsie N. Stewart of Plainfield, N. J., December 1.

JOHN CHURCHMAN GEIGER, M.D., Huntington, W. Va., to Miss Marcella Mai Lorentz, at Baltimore, November 15.

JOHN C. MILLER, M.D., Chalfinbridge, Ill., to Miss Cecil Stoey of Pittsburg, Pa., at Columbus, Ohio, November 14.

JOEL B. WOODHULL, M.D., North Bennington, Vt., to Miss Eliza M. Remington of Bennington, Vt., November 22.

HORACE W. GRAVES, M.D., Independence, Kan., to Miss Alice Getty, Freeport, Kan., in Kansas City, Kan., in October.

WILLIAM GUTTHER COPPAGE, M.D., Church Hill, Md., to Miss Harriett Glanville Golt, at Centerville, Md., November 21.

CHARLES G. ANDREWS, M.D., Pedro Miguel, Canal Zone, to Miss Mary F. Cooke of Anconcita, Canal Zone, November 1.

GEORGE THOMAS LITTLE, M.D., North Uxbridge, Mass., to Miss Edith Bertha Smith of Worcester, Mass., November 24.

Deaths

Jerome Z. Gerhard, M.D. Department of Medicine of the University of Pennsylvania, Philadelphia, 1868; a member of the American Medical Association; a veteran of the Civil War; a member of the Dauphin County Medical Society; a member of the Medical Society of the State of Pennsylvania and of the American Academy of Medicine; formerly superintendent of the Pennsylvania State Lunatic Hospital, Harrisburg, and one of the foremost alienists of the state, died at his home in Harrisburg, November 20, from meningitis, after an illness of two weeks, aged 64. At a special meeting of the county medical society, resolutions setting forth the loss experienced by the society in the death of Dr. Gerhard, were unanimously adopted.

Florence Greenman Emerson, M.D. Woman's Medical College of the New York Infirmary, New York City, 1896; for a number of years a physician of the Brooklyn Board of Health and school medical inspector; a member of the Kings County Medical Society, died at her home in Brooklyn, November 26, from pneumonia, after an illness of four days.

Peter W. Ray, M.D. Castleton (Vt.) Medical College, 1850; a colored practitioner of Williamsburgh, New York; one of the founders of the Brooklyn College of Pharmacy and the Kings County Pharmaceutical Society, and treasurer of the latter organization for 23 years, died suddenly at his home, November 27, from heart disease, aged 82.

John M. Miller, M.D. New York Homeopathic Medical College and Hospital, New York City, 1869; coroner of the Bronx in the early seventies, and a practitioner of Springfield, O., for more than thirty years, died at his home in that city, from septicemia, due to a carbuncle of the neck, November 25, after a short illness, aged 69.

Marshall Augustus Brown, M.D. Jefferson Medical College, Philadelphia, 1861; a surgeon in the Confederate Service during the Civil War and chief surgeon on the staff of General Price, was found dead in his room in Marshall, Mo., October 30, from disease of the stomach, from which he had suffered for several years, aged 73.

Louis C. Starkel, M.D. Miami Medical College, Cincinnati; one of the founders of the St. Clair County Medical Society and for many years a practitioner in Belleville, Ill.; clerk of St. Clair County in 1873 and 1877; died at his home in Chicago, October 30, from endocarditis, after an illness of one year, aged 67.

Charles Wetton, M.D. Jefferson Medical College, Philadelphia, 1901; visiting physician at the Pilgrim's Home, Camden, N. J., and the Camden City Dispensary; a member of the Camden City and County Medical Society; died from pneumonia, at his home, November 18, after an illness of three weeks, aged 32.

William R. Sutherland, M.D. McGill University, Medical Department, 1879; a member of the American Medical Association, of High Springs, Fla., surgeon to the Atlantic Coast line, died October 4, in the Odd Fellows Sanitarium, Gainesville, from acute nephritis, four days after an operation, aged 55.

Ira N. Fix, M.D. Jefferson Medical College, Philadelphia, 1893; surgeon for the Westinghouse Company, burgess of East Pittsburg, Pa., and justice of the peace, died at the Braddock Hospital, November 22, from injuries received in the wreck of an automobile ambulance three days before, aged 36.

DeWitt C. Clinton, M.D. University of Michigan, Department of Medicine and Surgery, 1871; of Onaway, Mich.; for many years chief surgeon for the Detroit and Mackinac Ry., died in Harper Hospital, Detroit, November 15, from shock after an operation for gastric ulcer, aged 51.

Terrence M. A'Heron, M.D. New York University, New York City, 1873; surgeon for the Central Railroad of New Jersey, and the Delaware, Lackawanna and Western Ry., died at his home in Hampton Junction, N. J., from nephritis, November 15, aged 60.

John Walter, M.D. University of Georgetown, Medical Department, Washington, 1868; one of the founders of the German Orphan Asylum, died at his home in Washington, November 17, after an illness of eight months, three days after the death of his wife.

Joseph Talbot Fry, M.D. University of South Carolina, Medical Department, Columbia, 1856; for several years county judge of Matagorda County, Texas, and twice a member of the state legislature, died at his home in Selma, Ala., October 17, aged 72.

Joseph T. Fellows, M.D. Physio-Medical College of Indiana, Indianapolis, 1889; Barnes Medical College, St. Louis, 1898; a member of the national and state Physio-Medical associations, died at his home in Des Moines, Ia., November 16, aged 70.

Howell D. Harris, M.D. New Orleans School of Medicine, 1861; a Confederate veteran, and for nearly forty years a practitioner of Jackson, Tenn., died at his home in that city, from abscess of the throat, August 7, after an illness of one week.

Thomas Lewis, M.D. College of Physicians and Surgeons, Baltimore, 1881; for many years a practitioner of Coles and Mahanoy City, Pa., died at the residence of his brother-in-law in Harrisburg, Pa., October 9, after a long illness, aged 45.

John Wesley Dailey, M.D. Cincinnati College of Medicine and Surgery, 1864; for many years a practitioner of Salina, Kan., died at Worcester, Mass., October 18, from dilatation of the heart, after a short illness, aged 63.

Charles H. F. Lee, M.D. Miami Medical College, Cincinnati, 1877; a member of the American Medical Association, died at his home in Corvallis, Ore., November 13, from heart disease, after a short illness, aged 53.

William Francis Casavaw, M.D. College of Physicians and Surgeons of Chicago, 1903; was found dead at his home in Overly, N.D., October 23, from poison supposed to have been self-administered, aged 28.

Noah E. Sutton, M.D. State University of Iowa, College of Medicine, Iowa City, 1893; a member of the American Medical Association, died at his home in Trenton, Mo., November 20, from nephritis, aged 40.

William M. Bittinger, M.D. State University of Iowa College of Medicine, Iowa City, 1882; a member of the American Medical Association; died suddenly at his home in Grady, Ark., November 11.

Nathaniel Otis Harris, M.D. New York University, New York City, 1854; died at the home of his son-in-law in Moodus, Conn., October 13, from senile debility, after an illness of three months, aged 83.

Hyatt A. Frost, M.D. Chicago Medical College, 1863; said to have been the oldest practitioner of Wausau, Wis., died at his home in that city, October 26, after an illness of two weeks, aged 78.

D. A. Hurst, M.D. Starling Medical College, Columbus, 1854; Jefferson Medical College, Philadelphia, 1878; formerly of Oskaloosa, Ia., died at Pomona, Cal., October 22, after a protracted illness.

Henry H. Moore, M.D. Indiana Central Medical College, Indianapolis, 1852; said to have been the oldest practitioner of Liberty, Ind., died at his home in that place, November 18, aged 90.

Leonard Francis Nicoll, M.D. College of Physicians and Surgeons in the City of New York, 1903; died at his home in New York City from typhoid fever, November 25, aged 30.

George F. McKinney, M.D. Barnes Medical College, St. Louis, 1904; of Warrensburg, Mo., while making a call in Truesdale, October 29, was struck by a train and instantly killed.

Alvan S. Bailey, M.D. State University of Iowa College of Medicine, Iowa City, 1885; died at his home in Lorimor, Iowa, October 1, from chronic kidney disease, aged 61.

E. T. Owen, M.D. University of Louisville, Medical Department, 1856; one of the oldest practitioners of eastern Arkansas, died at his home in Clarendon, November 23.

James H. Brantley, M.D. Tennessee Medical College, Knoxville, 1892; died in San Antonio, Texas, October 17, from asthma, after an illness of four years, aged 38.

Franklin L. Knapp, M.D. Geneva (N. Y.) Medical College, 1844; formerly of Gasport, N. Y., died at his residence in Mabees, Royalton, November 15, aged 88.

Robert W. Southgate, M.D. Boston University School of Medicine, 1881; was found dead in his room in South Weymouth, Mass., November 22, aged 45.

Asa L. Blanchard, M.D. University of Michigan, Department of Medicine and Surgery, Ann Arbor, 1878; of Northville, Mich., died recently in the south.

Samuel A. Clark, M.D. University of Buffalo, Medical Department, 1883; died at his home in Garrison, Neb., November 14, after a short illness, aged 60.

Frederick L. Pond, M.D. United States Medical College, New York City, 1880; died at his home in Chicago, from heart disease, November 23, aged 71.

Joseph Miller McElhinney, M.D. Eclectic Medical Institute, Cincinnati, died at his home in Newport, Ohio, September 4, from senile debility, aged 82.

Virgil Snoddy, M.D. Medical College of Alabama, Mobile, 1875; died at his home in Knoxville, Ala., November 14, from dropsy, after a long illness.

Francis Percival Cowan, M.D., C.M. Trinity University, Toronto, 1889; died from nephritis in the Western Hospital, Toronto, October 17, aged 40.

Jonas S. Newburgh, M.D. Bellevue Hospital Medical College, New York City, 1884; of Chicago, was killed by a train in that city, November 10.

Spursheim P. Moore, M.D. University of Buffalo, Medical Department, 1871; died at his home in Munnsville, N. Y., November 18, aged 67.

Jeremiah Behane, M.D. Royal College of Surgeons, Dublin, Ireland, 1894; died at his home in Braddock, Pa., November 22, aged 38.

Sarah DeLoss (Examination, Illinois, 1889); died at her home in Chicago, November 14, aged 64.

Society Proceedings

COMING MEETINGS.

Southern Surg. and Gyn. Assn., Baltimore, Dec. 11-13.
American Association of Anatomists, New York City, Dec. 27-29.

COLLEGE OF PHYSICIANS OF PHILADELPHIA.

Regular Meeting, Nov. 7, 1906.

The President, DR. ARTHUR V. MEIGS, in the Chair.

Points of Interest in Hospital Management.

DR. CHARLES P. NOBLE raised the question whether or not it is best for a hospital to care for both the poor in charity wards and for the rich and those in moderate circumstances in pay wards and private rooms, and alluded to some of the factors which have favored the development of pay wards. Those interested in increasing the financial support of hospitals, he said, look with favor on the plan, but it is doubtful whether money given for the charitable treatment of the poor is properly expended when it is applied to the erection of elaborate buildings for the treatment of the rich, and also whether the greatly increased cost of the maintenance of hospitals of the mixed type does not overbalance the profits arising from the care of pay patients.

Dr. Noble believes that the present tendency on the part of the training schools of hospitals to require nurses to remain in training longer than two years is a mistake. He emphasized the importance of the passage of a state law regulating the status of nurses, and called attention to the fact that an attempt to pass such a law will be made in the next legislature. His personal investigation in hospitals has led to the discovery of certain sources of infection heretofore unappreciated. Among the important factors to be considered are the necessity of segregating septic patients and providing them with separate nurses, efficient regulations for the disinfection of nurses' hands and for the disinfection of all apparatus employed by nurses. Dr. Noble has, with the assistance of the medical staff at the Kensington Hospital for Women, and with the suggestions and criticisms of three different head nurses, compiled a technic which has been used with great satisfaction and been proved to be a great improvement on methods heretofore in vogue.

DR. WHARTON SINKLER referred to the growing tendency to overeducate nurses in medical matters. He considers such instruction suitable for second-year medical students productive of bad results in nursing. An important disadvantage of the lengthened term of training is to make the nurse value her services so highly that none but the wealthy classes can employ her. The lengthening of the course to three years, he said, is an important objection to the new registration act to be introduced at the time of the next legislature.

DR. JOHN K. MITCHELL thought a nurse capable of being trained will acquire that training in two years, and that longer time spent in the school tends rather to unfit her for originality of thought and action.

DR. WILLIAM M. L. COPLIN regards a two-year course quite adequate. The giving of elaborate lectures on medical subjects, he thinks, leads the nurse to assume much more knowledge than she actually possesses. He referred also to the short term training schools, pointing out the menace they are to the public and the demand necessitated by them for some system of registration and examination or control of the nurse training school.

DR. WALTER G. ELMER questioned whether shortening of the three-year course to two years will work out satisfactorily in practice, and pointed out the dependence necessarily placed on the nurse in the absence of the physician. She should be expected to recognize certain conditions not seen by the physician during the short visit and likely to develop during the day. Some degree of medical training is advisable. One of the greatest difficulties presented by the shorter term of training is in the operating room work. Here serious mistakes may occur because of the nurse being in a position for which she has not been properly trained.

The Making of a Museum of Applied Anatomy.

DR. GWILYM G. DAVIS discussed the use of specially made preparations in the teaching of applied anatomy, both in the form of wet preparations for class demonstrations and preserved in a museum. Such preparations, he said, are illustrative of the normal topography of a part, and of the affections to which it is subject. As examples of the former he mentioned the triangles of the neck, the thoracic and abdominal viscera, Scarpa's triangle, popliteal space, also frozen sections; of the latter, joint preparations injected with wax to show their weak points, and skull perforations for cerebral localization. Special preparations are those illustrative of operations, fractures, dislocations, hernias.

The method of making the preparation is the use of formalin and freezing for making sections, also in making ordinary dissections and afterward hardening them. Specimens for demonstration are kept in a modified No. 1 Kaiserling solution. This is made up with acetate of potash and glycerin with some carbolic acid and less formalin. Museum preparations are preserved in flat porcelain basins and covered with alcohol.

Pathology of Adams-Stokes Disease.

DRS. THOMAS G. ASHTON, GEORGE W. NORRIS and R. S. LAVENSON reported a case of Adams-Stokes disease which before death exhibited all the cardinal symptoms of the condition. They were able, by means of tracings coincidently taken from the apex beat, the radial artery, and the jugular vein, to prove that the auricles contract more frequently than the ventricles, that there is, in fact, a condition of complete heart-block. The autopsy revealed a mass infiltrating the auriculo ventricular bundle, which on microscopic examination proved to be a gumma, which completely cut off the muscle fibers in the bundle of His. The pathology of Adams-Stokes disease is thus put on a definite organic basis.

MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

Thirty-second Annual Meeting, held at Hot Springs, Ark., Nov. 6-8, 1906.

(*Concluded from page 1850.*)

Clinical Psychology.

DR. FRANK PARSONS NORBURY, Jacksonville, Ill., said that in all ages man has sought to solve the mysteries of his own ruling mind. The researchers of to-day have translated the science of mind from the terms of the metaphysician with its confusing verbiage to words that signify something by defining the fact of physiologic psychology, psychophysics and clinical psychology. Mind to-day is studied from the basis of the general law laid down by James, namely, that no mental modification ever occurs which is not accompanied or followed by a bodily change. The brain itself does not act (it is a passive organ), but reacts to stimuli through the peripheral sense organs, thus creating a reflex either in the sensory, motor or higher psychical cells. Psychology endeavors to study these reactions.

Speculative psychology has no place in the modern new psychology. Physiologic psychology, aided by the coördinate science of physics, has overcome the dissatisfaction growing out of introspective psychology. It has raised the physiologic unit, as stated by Mercier, namely, that a nervous process which, when transmitted to muscles, issues in a movement and is accompanied by a mental state, to the highest power, as shown in conduct. Conduct is the criterion of soundness or unsoundness of mind. It is the product of innate character, of environment, of experience, and numerous other modifying conditions.

Refined methods of analysis apply in the study of sensation, of perception, of memory, of thought, of feeling, and of the disorders of the will reveal mind in its constitution. In analytical study it is necessary to note negative as well as positive results. These methods apply to the borderline anomalous mental states, i. e., the neurasthenic, the psychosthenic, the hysteric, the epileptic, which enable us to define their full clinical significance. We should follow the clinical methods of Janet in studying these varied mental anomalies.

Heredity is not considered in these studies with the same degree of insistence as that advocated by Morel.

Therapeutic methods resolve themselves into the personality of the physician, his consideration, patience and earnestness; his ability to take a broad educational view of the whole subject and apply wholesome, helpful methods both in the physical and mental considerations. In no place in our therapeutic art do we find a greater call for the highest application of educational means and methods than in the treatment of nervous disorders, as found in the psychoneuroses. The educational growth of character is imperative. Moral education precedes mastership in every act, because the training which mastery involves reacts on character, gives it steadiness and solidity.

Educational methods alone will not give the results; we must build up, overcome the bodily fatigue, intellectual and emotional. This requires fat and blood, strength and equipoise. The connection between sane living and sound work is a psychologic and physiologic necessity.

Surgical Principles and Theories.

DR. F. F. LAWRENCE, Columbus, Ohio, said: Surgery is either an art founded on exact science, or it is a gigantic fake founded on empiricism. Every science is and must be founded on principles which are as enduring as truth. Every principle, every truth, must be preceded by theory, which is only another word for ideal. To make theories or ideals conform to truth and exemplify a scientific proposition is to convert that theory or ideal into a fact. To sacrifice on the altar of personal vanity or ambition one jot or tittle of the truth or science is to sacrifice the entire principle. Empiricism has been the foundation of quackery from the earliest days, and to encourage, practice or teach any of our surgical methods empirically is to justify and father quackery. It is unreasonable to expect that any man can put into practice a scientific principle if he knows not a thing about any of those sciences on which surgery rests. The human body must be viewed as a machine; its surgical or medical repair to be based on the idea of the province of a thorough mechanism. There is no part of the body which is not constructed on a true philosophy, and its repair requires a knowledge of natural philosophy. All the other "ologies" and "osophies" are useful only in determining the need and character of repair, hence any surgical effort that is not philosophic is unsurgical. Teaching of the principles on which the treatment of a surgical case is based should be the most attractive as well as the most important part of our efforts. To acomplish this methods of teaching and practice must be consistent, and both can be revised with benefit. Traumatism should be given the consideration due its importance as a factor in infection. Fads and fancies should not command the respect of the profession, and non-essentials should not be given prominence in teaching. Surgery should be taught as an art which rests o exact or scientific principles, hence one in which philosophy is equally important with pathology, and anatomy of greater import than the microscope, although the latter is a necessary adjunct. A man may be a good physician but a poor surgeon. The converse, however, is not true, for a man can not be a surgeon who is not a good physician; hence a special qualification is advantageous. Hospital construction and hospital management should be consistent with the teachings of hygiene, the segregation of patients, isolation of infected cases, space per bed, and all minor details to be worked out by men trained in sanitary science instead of by architects and other laymen. Endowments for the working out and proving of surgical principles and honors to the workers may be worthy serious consideration. The one great principle, that a surgical condition is always surgical, should be constantly emphasized to the end that *dernier resort* operations may cease to be the bane of the profession and the boon of the undertaker.

Present Operative Necessities for Cure of Tuberculous Orchitis.

DR. CHARLES E. BARNETT, Fort Wayne, Ind., in summing up said that: 1. To be sure of a cure, all that is infected with tuberculosis must be removed. 2. Primary invasion statistics are so variable that the operator should consider his testicular tuberculosis as primary unless other foci are found that disprove the supposition. 3. The modes of infection are so many that the surgeon should be on his guard constantly. This is especially true in infection during the act of cohabitation. 4. The desexation bugbear should be entirely removed from the patient's mind and instead hope should be given him for a continuation of his copulative power. 5. Injections of paraffin in producing artificial testes are good from a cosmetic standpoint, and also from the great satisfaction they give the patient. They are entirely devoid of danger when properly done. 6. Operations, when indicated, should be immediate, followed by prophylactic and hygienic treatment until the maximum improvement is gained.

The author gives the operative technic used by him in double orchovasectomy, and shows how comparatively easy it is to extract the vas deferens from along its course even down to the ejaculatory duct region. He reported two cases to illustrate the postoperative benefit gained. One of them was injected with paraffin according to the Gersuny method of small quantities at a time, with frequent sittings. The artificial testes were, from the standpoint of size, location and permanency, all that could be desired.

Head Injuries.

DR. WILLIAM BRITT BURNS, Memphis, Tenn., reported three cases of head injuries which had a bearing especially on injuries of the middle meningeal artery.

Non-Lithogenous Obstruction of Biliary Tract.

DR. A. H. CORDIER, Kansas City, Mo., said there is a class of cases presenting an obscure train of symptoms pointing to the vicinity of the gall bladder and biliary ducts as their source. For instance, a vague sense of uneasiness, occasionally painful spells lasting a few minutes, with attacks of indigestion and painful flatulency. At the operation no stones are found, no stricture of the ducts is discovered, no visible changes in the gall bladder are discernible; in fact, nothing is detected except a few adhesions between the cystic duct and common duct or duodenum. A separation of these adhesions, with a liberation of the bound-down ducts and viscus from the constantly nagging, distended stomach and intestines will, as a rule, bring relief to the patient.

If an obstruction is located in the cystic duct, and the gall bladder escapes, the usual contraction due to the presence of a cholecystitis, this viscus may continue to manufacture mucus, and, if infected, as it usually is, a muco-purulent distension takes place, and a pyriform retention cyst is produced, usually detectable below the border of the liver in emaciated patients. In this condition jaundice is absent and the patient has fever and gastrointestinal disturbances. These cases are especially liable to recurring attacks of fever, as the absence of bile in the gall bladder robs Nature of one of the most efficient inhibiting bactericidal fluids. These are fit cases for a cholecystectomy, as drainage of the gall bladder is too uncertain in its curative effects, the opening either refusing to close, or if it does close, the symptoms are renewed.

Where the complete obstruction of the duct is the outcome of a long impacted stone resulting in a cancer, the diagnosis of the latter is extremely difficult before operation. Cancerous obstruction occurs most frequently in the lower portion of the common duct. This is likewise the location of most lithogenous obstructions.

In determining the existence of an obstruction, its location, extent, character and time of operating, he has for 14 years resorted to hydrostatic pressure, by introducing through an aspirating needle into the gall bladder a saline solution from a moderate height, or if this viscus has been opened, the nozzle of an irrigating syringe, or if the common duct has been opened, by irrigating directly into the duct. In cases where the duct is embedded in a mass of adhesions and has lost its identity, it can be made to stand out distinctly by water pressure introduced through the gall bladder, provided the cystic duct is patent. By this same process the patency of the duct, after removal of one or more stones, can be determined, as he has on several occasions run rather a large quantity of saline solution directly into the duodenum through the gall bladder, cystic and common duct. As a means of determining the security of the duct stitching, where the opening in this canal is closed by suture, this method is invaluable, as disappearing stones and other débris can thus be washed out of the biliary tract.

The following papers were also read and discussed: "Gallstones, Report of Two Cases," by Dr. J. H. Barnett, Pikeville, Tenn.; "Pruritus of the Anal Region," by Dr. Bernard Asman, Louisville, Ky.; "Diagnosis and Treatment of Brain Traumatisms," by Dr. John N. Sluss, Indianapolis, Ind.; "Asthma with Mixed Infection Following Repeated Attacks of La Grippe," by Dr. Wm. P. Waugh, Chicago; "Some Medical Notes on Frontal Sinusitis," by Dr. A. E. Prince, Springfield, Ill.; "The True Cause of Functional Neuroses," by Dr. G. G. Buford, Memphis, Tenn.; "A Possible Explanation of the Formation of Drug Habits," by Dr. H. A. Rodebaugh, Columbus, Ohio; "Specific Treatment of Pulmonary Tuberculosis," by Dr. E. G. Epler, Fort Smith, Ark.; "Report of Cases of Probable Maternal Impressions," by Dr. J. Madison Walton, Memphis, Tenn.; "Some Clinical Observations on Tuberculosis," by Dr. Wm. Porter, St. Louis, Mo.; "Eye Findings in Arterio-Sclerosis," by Dr. Geo. F. Baker, Chicago; "Remarks on Combined Degeneration of the Spinal Cord," by Dr. Hugh T. Patrick, Chicago; "The Entoning of the Psychic Neurons in Neurotherapy and in General Therapeutics," by Dr. C. H. Hughes, St. Louis, Mo.; "Yellow Fever and Mosquitoes in New Orleans in 1905," by Dr. Quitman Kohnke, New Orleans, La.; "Operations for Prothorax," by Dr. Spencer Graves, St. Louis, Mo.; "What to Do in the Presence of Obscure and Persistent Abdominal Symptoms," by Dr. H. H. Grant, Louisville, Ky.; "Etiology, Pathology and Operative Treatment of Deformities of the Face and Mouth Due to Malrelations of the Face and Jaws," by Dr. V. P. Blair, St. Louis, Mo.; "Successful Obliteration of Hemangioma Cavernosum of the Upper Lip," by Dr. Francis Reder, St. Louis, Mo.; "Typhoid Fever," by Dr. J. H. C. Cook, Hattiesburg, Miss.

CHICAGO MEDICAL SOCIETY.

Regular Meeting, held Nov. 7, 1906.

DR. A. BELCHAM KEYES in the Chair.

DR. CARL BECK reported two cases, one of septic thrombophlebitis and the other of atresia ani vesicalis.

Leprosy.

DRS. E. A. FISCHKIN and E. C. SEUFERT reported jointly a case of leprosy.

The patient, aged 26, a fruit peddler, came from the Baltic provinces, near Riga, Russia, from a district where leprosy is endemic. He has been in the United States 12 years, having lived in Chicago all this time. His illness dates from April, 1905, up to which time he was healthy. On questioning he admitted having had some itching eruption on the arms and legs at the age of 14, just before coming to America. It lasted three or four months.

The patient looked very anemic; his pulse was weak, but there were no abnormal conditions of the heart; no murmurs; spleen and liver not enlarged; no adenopathy. A blood examination showed hemoglobin 95 per cent; 5,200,000 reds to 10,000 whites. A differential count showed normal conditions. There were no plaques or ulcerations in the mouth, and the patient did not show any visible signs of rhinitis and apparently no excessive salivary secretion. The eruption was mainly tubercular in character and covered most of the unexposed parts of his body. The face was almost free of leprous manifestations. The regions most affected are the extremities, the extensor surfaces of the arms and the outside of the thighs. The arms were dotted with tubercles the size of a lentil to half a cherry. Most of them rounded, of soft consistence and a dark, coppery brown color. The larger ones are covered with slightly exfoliating thin scales. A few of the largest were deeply furrowed and looked almost lobulated. The smaller ones are flat, looked almost like syphilitic papules, but less hemispherical, very smooth and shiny on the surface, and showed a deep varnished or glazed color as if they were covered with oil. The lower extremities are affected in like manner, though localized more on the upper than on the lower leg. On the upper parts of the legs there were streaks of gyrated bands of infiltration running over the cristæ osis ilei to the back.

The nates are covered with groups of characteristic tubercles. Above them in the lumbar region were large circinar infiltrations connected by somewhat irregular gyrate streaks and running out over the cristæ osis ilei to the anterior parts. The abdomen was for a long time free of manifestations showing only a group of small tubercles near the umbilicus. But toward the end of the patient's stay under treatment there appeared suddenly a number of large brown, somewhat raised, diffused areas of erythema leprosum or leprous roseola, which looked somewhat like a syphilitic roseola, the spots being much larger, two to three inches in diameter, more mahogany brown in color and infiltrated. Microscopic examination of an excised nodule showed large numbers of "lepra cells" and lepra bacilli.

Prevalence of Leprosy in North America and the Policy to be Pursued with Regard to It.

DR. WILLIAM ALLEN PUSEY said that there is a focus of leprosy in Tracadia, New Brunswick; a few cases among Norwegian and Icelandic settlers in the central Northwest, and sporadic cases are found among immigrants on rare occasions in any part of the United States. The important foci of leprosy in the United States are on the Pacific Coast, where it has been introduced by the Chinese, in Louisiana and in Key West. In both of the latter districts it has been introduced from Spanish America. A very few cases originating in the United States outside of subtropical districts have been recorded. The only focus of leprosy which seems to be of importance as re-

gards danger of spread of the disease is that in Louisiana. There the favorable influence which is afforded by climate makes the development of leprosy not an uncommon occurrence. Leaving out of consideration Louisiana, and taking all facts into consideration, Dr. Pusey said it may be assumed that there is practically no danger from the presence of a sporadic leper in any part of the United States.

In districts like Louisiana where leprosy is active every effort should be made to segregate the leper as completely as possible; to that end public asylums of refuge for them should be provided, as has been done in Louisiana. These should be made as agreeable places of residence for the sufferers as possible, if for no other reason, in order that lepers may willingly accept these asylums. This does not demand a very high standard of comfort, for the outside world is not a very cheerful place of residence for a leper in an advanced stage of the disease. Dr. Pusey stated that such treatment as is accorded lepers commonly is a reflection on common intelligence, to say nothing of humanity. If, for example, the reports which describe the lazaretto or prison for lepers in San Francisco, are true, the place is a disgrace to California. Whether anything more should be done than provide a place of asylum for lepers depends on the district. In Louisiana it is highly desirable to segregate the lepers. In Minnesota, where the population is vigorous, living conditions good, and the climate favorable, nothing more is necessary than to keep patients under reasonable surveillance and see that they do not live in squalor and dirt, in close contact with other persons. But even in such a district public help should be extended to the victim as fully as possible, and a place of refuge furnished them when they will accept it.

What shall be done with the sporadic leper, that occasionally appears in any of the non-leprous districts of the United States? He should be treated like any other patient suffering from an infectious disease of very slow course and of the lowest degree of contagiousness. There is no reason why he should not be admitted into a general hospital or treated outside, provided the same precautions are taken that should be carried out with tuberculosis.

DISCUSSION.

Dr. Maximilian Herzog said that in Manila there has existed for about two centuries a Catholic hospital which has always contained a number of lepers. During the time he was in Manila there were 200 or 300 cases there. The American government has set aside an island on which have been erected a number of buildings, and it is intended to segregate all the lepers there. It is estimated that there are between 10,000 and 30,000 lepers in the Philippines. It is claimed by the Filipinos that leprosy is the gift of the Japanese. During the feuds of the tribes the Japanese sold some of their slaves or prisoners as slaves into the Philippines, and some Japanese admiral once invaded the Philippines, so that leprosy is said to have been imported into the islands by the Japanese.

He believes it is a mistake to put the incubation period of leprosy at 14 to 16 years, because the disease begins very insidiously and may exist for a number of years before it is discovered. As to the bacillus itself, most of the bacilli which he has seen are granular in appearance, and it has been said that such bacilli are probably degenerated bacilli. He referred to some experiments which he made to cultivate the lepra bacillus. There have been from time to time claims made that some one has succeeded in cultivating the lepra bacillus. Some three years ago Surgeon-Major Rost, in the Indian service of the British army, claimed that he had not only succeeded in cultivating the lepra bacillus, but that he had succeeded in preparing a toxin or antiserum, called leprolin,, which, when injected into lepers, would bring about rapid amelioration and a cure. Dr. Herzog obtained some of that material and used it in the hospital in Manila, with the result that he had two postmortems from tetanus.

A Frenchman working in the Pasteur Institute devised a method by which he claimed he could get cultures of the lepra bacillus. The speaker tried this method and found that he could get a first generation. The medium is a somewhat complicated agar. The agar is melted and about one-tenth of the bulk of the yellow of an egg is added and the mixture shaken. When the medium has solidified it is inoculated from a young lesion in some of the deeper layers, removing the upper layers, and after about ten days there sometimes is a slight growth. In this growth he found bacilli which stained uniformly, showing that the granular bacilli are probably dead.

In view of the fact that animal experiments have proven unsuccessful for a long time, and that the father-in-law of Hansen inoculated himself and 197 other persons with leprosy and never produced a case of the disease, it appears to him that the chance of producing leprosy in lower animals by inoculation is very small. He has tried the same thing, but failed. He procured specimens of leprosy and implanted a piece with lots of bacilli in it into a collodion sac and placed that into the peritoneal cavity of a monkey and other animals. He left it there for six weeks, took it out, divided it into two pieces, put one piece aside and examined one piece to see whether there were any lepra bacilli there, and planted the other piece into a monkey, but nothing came of it. The monkey never developed leprosy.

As to Dr. Pusey's paper, he agrees with him that leprosy is not an infectious or contagious disease. He knew men in Manila who lived among lepers for years without contracting the disease. Once in a while an individual becomes leprous, but it is true that in families not all the members become infected. Formerly it was believed that leprosy was an inherited disease. Now we believe the opposite, and he thinks that there is no case on record occurring in a child under 5 years of age. He has seen a case where a married man did not become leprous. His wife, while pregnant, was discovered to have leprosy. She was treated with the *x*-rays with apparently fair results. During delivery the woman died. He secured the placenta, secured many sections, but failed to find any lepra bacilli. Dr. Herzog believes that leprosy has a tendency to decrease and finally die out when the hygiene of the country becomes better.

Dr. David Lieberthal has seen many cases of leprosy. He studies these cases very carefully because he was born near the center of leprosy in Russia. He agreed with Dr. Pusey in regard to the unnecessary excitement that is brought about when a leper appears. He called attention to a very common method of diagnosis of cases of tubercular leprosy. If one is always fortunate enough to have a case for a few days, so that he can cut out a section of the skin and make microscopic sections, well and good; but there are other instances where the practitioner sees the leper only once. If the case is of the tubercular variety, he prepares one of the nodules surgically, takes a coarse needle, pierces the nodule, wipes off the first blood which comes out, catches the next drop on a slide, and stains that with carbofuchsin or Ziehl-Nielsen, and within a short time one can have a specimen and will see groups of lepra bacilli. This method was described by Zchernogorouff in 1896, and he has had the opportunity to try it in one of his cases and found it to be valuable.

Dr. Oliver S. Ormsby referred to a case he reported about two and a half years ago, saying it was undoubtedly an indigenous case. It occurred in a Norwegian whose father, in all probability, contracted the disease in Norway. His patient was born in Iowa, was raised in Nebraska, and surely contracted the disease in this country. It was of the severely tubercular type.

As to the incubation period, he saw a woman this summer who has been in this country 24 years. She has lived in Illinois all of that time, and was absolutely well until about five years ago, when she was taken slightly ill. About three years ago she developed typical tubercular leprosy. Evidently the incubation period in that case was 24 years.

As to the demonstration of the organism in the tubercular leper, they have been able in the office of Dr. J. N. Hyde in the last five years to demonstrate it in the nasal secretion of every case on its first appearance in the office, and also from the nodules. They have treated two cases in Dr. Hyde's office with the *x*-rays, and the only benefit obtained was to relieve the nodules in the area treated. There has been no general benefit obtained after the individual nodules treated with the *x*-rays were removed.

Section Discussions

SYMPOSIUM ON THE DUTY OF THE PROFESSION TO WOMANKIND.

(*Concluded from page 1896.*)

DISCUSSION

DR. JOHN HUNTER, Toronto, Ont., said that he was impressed by the thought that we must educate the people up to a consciousness of their own responsibility in this matter. In no other country in the world are the laws more strictly administered than in Canada; and yet the Canadians have the same trouble. Merely placing of a law on the statute books, or trying to enforce it, will not eliminate this trouble. As an illustration, Dr. Hunter related an instance from his experience. A short time ago he was invited to address a home of refuge in which there were 75 young women, sent there on account of some crime committed, all due to immoral life. He spoke there one afternoon and very little attention was paid to what he said—on a purely religious topic. He asked the matron the next time if he might be allowed to speak on some of his own experiences as a physician, and she said: "Certainly, Doctor, we would be very glad to hear from you." A band of teachers—the most cultured young women of Toronto, were sitting behind him. He knew that the 75 young women had to listen, they could not leave, because they were in prison; but he waited to hear from the other young women, after he had plainly described the two great scourges, gonorrhea and syphilis, to those 75 young girls. He declared that he never saw an audience listen so attentively as they did. From that day to this he has been receiving letters from these young girls as they were dismissed when their term was up, telling him that if doctors would speak out in that way many women would be kept out of prison. That address changed their whole lives. On his way home that day some of the teachers shook hands with him and said: "Why don't you doctors often talk as you did to-day? We girls know practically nothing about these things; and if doctors would talk more as you did to-day you would save thousands of the young women of this and other cities." Dr. Hunter urged physicians to use every possible opportunity and not to be afraid of public criticism. He thinks that physicians could say a great deal more to the public; in any case they could talk to their patients and friends; and Dr. Hunter thinks that is the better way of solving this great problem.

DR. C. H. COOK, Natick, Mass., in reference to the statement that physicians are often-times responsible for teaching young men that sexual relations, even before marriage, are necessary to health, said that whenever a man consults him and makes that claim, he tells him that if the sexual relation is necessary to health, or physiologically necessary, it can not then be morally wrong; neither can it be wrong for the woman who ministers to that need. He said that, granting, for the sake of illustration or argument, that such relation is necessary to health, God Almighty did not make anything that was necessary and at the same time, morally wrong; neither did the Almighty make anything that was physiologically necessary for a man and, therefore, not morally wrong, and, at the same time, wrong for the woman who ministers to that need. He thinks that physicians should press that home on everyone who makes such a claim, be he physician or layman. Although men claim liberty for themselves, Dr. Cook said that he has yet to meet the man who will grant that liberty to his wife, his daughter, or his sister.

DR. GEORGE FRANK BUTLER, Chicago, expressed a wish that all contributions to this Section could be published in the newspapers, or published in reprints and sent to the laity. The public must know these things; and they will not know them if the papers are printed only in medical journals. Physicians must bring influence to bear on the postal authorities at Washington, to allow such subjects brought to the attention of laymen, and especially young people. Venereal diseases, he said, are very prevalent, and indirectly are doing an immense amount of harm. The indirect results are perhaps more pronounced than the direct results. Physicians are now taking action regarding the prevention of tuberculosis, and they should take an equal interest in the prevention of venereal diseases. Dr. Butler thinks that Dr. Cumston stopped too short. Dr. Butler thinks that he wanted to convey the impression that venereal diseases from a physician's standpoint, are no more disgusting than measles, or scarlet fever. A man who has contracted any disease is worthy of consideration and treatment, honest treatment; and if physicians and the people are educated to that fact, young men will not go to the drug stores for medicine for the treatment of gonorrhea and syphilis, but will consult reputable physicians. The man who has contracted a venereal disease is unfortunate, it is true. Perhaps he has not innocently acquired this disease, but in any case, physicians should give him due consideration.

DR. E. E. MUNGER, Spencer, Iowa, expressed his regret that many speakers did not mention the advertisements in the press of this country that guarantee to cure all these venereal diseases in from seven to thirty days, and which send those men, who suppose themselves cured, out to carry infection to the innocent. It is no worse, Dr. Munger said, to mention these matters in the newspapers and to educate the people along the lines of truth than to publish columns of advertisements that are misleading. Dr. Munger declared that he knows of no greater mission that can be undertaken by any man or organization of men than the education of the ignorant and the protection of the innocent. The genesis of all the evils which are just now occupying the attention of the profession lies in the ignorance and the credulity of the people, and in the contemptible charlatanry which is met on every hand. Preventive medicine, for which there are such great possibilities, needs, more than anything else, the support of the people, the rich and the poor, the high and the low. As a partial remedy, he urged the advisability of the American Medical Association considering the establishment of a "Bureau of Education of the American Medical Association," for the dissemination through the newspapers and by other means, of such knowledge and advice as will better enable the people of the country to act intelligently in matters pertaining to their own health and lives, thereby making it possible for them to be able to assist the medical profession in their campaign against disease and in their efforts to prevent disease and relieve suffering and prolong human life. Organized as the American Medical Association now is, he said that such a bureau would be in affiliation with each state and county society; and there could be such a division and sub-division of the labor, incident to the writing, editing and distribution of articles for publication as would make an aggressive, systematic campaign of education both possible and practicable. All other organizations interested in the welfare of society could also be affiliated with this bureau. The members of the medical profession, on whom has ever been enjoined the performance of so many arduous duties toward the community, will never have discharged their full duty until they have educated the people to that degree of medical intelligence which shall, at least, cause them to suspect fraud and deceit. There is no other branch of human activity, he said, about which people are so woefully ignorant, as about the honorable practice of medicine and surgery in relation to themselves. How, he asked, are we to educate the people.

DR. ALBERT H. BURR, Chicago, stated that he is in accord with the sentiment in favor of public education. He believes in physicians taking the public into their confidence and facing this matter in the open. He thinks that we should give instruction in the public schools to boys and girls at the age of puberty, concerning physiologic and hygienic facts relating to the organs of generation. He characterized some opposition against legislation as being radically wrong. He stated that he has heard it said over and over again that "laws do not correct these things," "you can not legislate morals into the people," etc. There is a certain sense in which that is true; but there is another sense in which it is absolutely false, and if we acted on that principle we should wipe out the whole fundamental decalogue. The whole front page of a daily paper in any city will show that the decalogue is violated from

"A to Z." Men and women will stand up in front of the most terrible punishments that man can inflict, and deliberately commit every known crime. No law absolutely suppresses crime. There is, however, an educational factor in every just law that is placed on the statute books, whether that law is properly enforced by the officials or not. The public eventually becomes educated up to its standard. That man who stole, that man who murdered, that man who bore false witness, that man who committed adultery, has had "Thou shalt not" pounded into him from the beginning. No man, unless he is an imbecile, is so ignorant that he does not know the fundamental principles of the ten commandments; and yet our prisons are full of men and women who violate them every day; but these commandments certainly prevent crime to a great degree; and so a statute placed on the law-books of every state that establishes quarantine in front of the marriage-license window, says to every candidate: "If you propose matrimony you must pass through the gate with a health certificate, before you can take out your license." In that way, Dr. Burr said, laws operate as potent, educational factors. He agreed with Dr. Dührssen on the one hand, that it will not protect in all cases. One can not catch them all; but there are thousands and thousands of men and some women, who enter the marriage relation in the acute stage of venereal diseases, who could be restrained. They have passed out of physicians' offices knowing that they were not cured and have entered the marriage relation. If they have reached a condition of latency in which it is difficult for the physician to discover their disease, the probabilities are comparatively slight that they may cause a harm to others. Good sanitary inspection will cut out most of these. To enact those sanitary laws is infinitely better than to have no preventive laws. People will come to know of these things and to respect the laws, and the marriage contract will have some barriers that will protect the healthy from existing contagions.

DR. J. HENRY CARSTENS, Detroit, took the stand that education will do a great deal in the prevention of these diseases. It does not prevent them entirely; because the men who are the most educated and who are the most thoroughly posted on these dangers will deliberately go and expose themselves to them. Not only knowledge is required, but back of it some moral principles. The public has been educated in reference to the danger of the contagion of tuberculosis; the poor fellow who has it has trouble in getting a position, and, if it is known, he is discharged because others are afraid of catching it. If the public is educated in the same way in regard to venereal diseases, the man who has a venereal disease will have just as much trouble, and he will be careful to see that he is cured. A woman will be careful whom she marries. In Detroit was held the first public meeting in this country on the subject. Ministers and teachers and the public in general were invited and all those points were discussed publicly. Dr. Carstens thinks that if this were done all over the country a great deal of good would be accomplished.

DR. HENRY O. MARCY, Boston, said that a young man from one of the best families, having been carefully reared by one of the best mothers, consulted him and said: "I am engaged to a beautiful young girl. My intimate friend, a beloved companion for years, says that I have no right to go to the marriage bed until I shall prove my manhood." So he came to Dr. Marcy for advice. Dr. Marcy declared that he labored with that young man, and was never more faithful in the discharge of a duty. The young man gave him his sacred promise. When Dr. Marcy returned from his summer vacation, the young man went to him and said: "That persuasive friend took me against my judgment where I should not have gone; and see!" The man had lost an eye from gonorrhea. Of course, he had lost his sweetheart. He is now a single man with ambition crushed out of him. He had fine opportunities; and it was over-persuasion of a man of the world (as he is called) that led him into this single experience with such frightful result.

DR. DANIEL T. NELSON, Chicago, stated his belief that the majority of the girls who fall, do so because of want of instruction. He said that even physicians fail to instruct their own children as they should before puberty; they have left it for the teacher, the Sunday school teacher, the pastor, and these, in turn, have left it to some one else, and as a consequence the children get their education along this line on the street. Education in this subject must be commenced in the family; it is the parents' business to teach their children. But many children have no parents, or none who can teach. The state educates the children, because of its theory that the children will not be educated unless the state takes hold of it. General taxation pays for that education. Should it not be alike in this, Dr. Nelson asks? Hygiene and physiology are taught in the schools. True, but in school-books sexual physiology is entirely obliterated, perhaps with few exceptions. Dr. Nelson said that in all the text-books that he has ever seen that have been used in the colleges and in the high schools and even in the lower schools, this matter of physiology of generation has been left out. The late Philip D. Armour once said: "Educate the children, and let the old sinners go." This is what must be done in this matter. The old sinners will soon pass away; but the children must be educated. A beginning should be made in the primary schools, not telling them where babies come from, necessarily; for they are babies themselves, and they do not care where they came from. Teach them how the plants grow, how generation takes place in plants. If they know enough, if they are sufficiently mature, teach them how birds increase. Show them the little birds and teach them that. Then if they are older, go on, as from the kindergarten to the high school; teach how animals procreate. When you come to the higher, human race, teach them the whole truth and nothing but the truth. If this plan were carried out Dr. Nelson declared that there would be very few cases of pregnancy in high schools and boarding schools, which are the disgrace to-day of some of them.

DR. W. D. CALVIN, Fort Wayne, Ind., said that in his city the medical society some time ago arranged to have articles written for the daily papers, but not signed. The signature was omitted to prevent the criticism of advertising. These articles have been on the subject of hygiene, infection and many things concerning which the public have little or false knowledge. The articles have been effective. The knowledge that the people previously had on these subjects in Fort Wayne, as in other cities, has been given to them by the advertising charlatan; and the "patent-medicine" literature. Dr. Calvin thinks that local societies can do a great deal in instructing the laity on these and other topics in this way. Each physician can do something. It has fallen to his lot in the past to give a few talks to women teachers in the high schools and in the grammar schools on physiology. In these talks he took occasion to give one on the subject of propagation of species. One of the members (a very sensible young woman), asked that they be given more instruction on this topic, that they wished to communicate these facts to their students and to others whom they felt to be in great need of this kind of instruction. Consequently, some of the principals of the ward schools are now keeping the girls at one time, and at other times the boys, and giving them such instruction as they can, in the hope that their students may avoid the mistakes so frequently made at that period of life. Physicians also may have an influence with ministers. Dr. Calvin is well acquainted with one minister and does not hesitate to tell him wherein he can instruct the people and not preach to them so much as teach them along certain lines. Since doing so, Dr. Calvin has noted that in various sermons he has touched on these things, in a way that has not been repulsive, that has not been looked on as preaching, so much as teaching. Women physicians, Dr. Calvin said, can have a special influence in the schools. They can talk to the girls. He does not think that there can possibly be any criticism of any woman practitioner who gives students instruction along these lines. If there is, it is unworthy of notice. This work is one that is certainly justifiable. It is work without compensation and for the benefit of those students. No man can instruct these girls in the high schools and in the ward schools so well as can the woman physician. Dr. Calvin thinks that this is one of her special duties, because she can teach these girls better than men can, and it is work that will continue to grow. He believes most

heartily in the education of the people on this subject; and thinks that there is no reason why physicians should hesitate in any way to speak on these subjects, so long as we speak on them in ways that are beneficial to mankind.

DR. W. F. ROBIE, Baldwinville, Mass., declared that it seems to him that what the medical profession needs and what suffering humanity needs, is that this subject should be reduced to concrete form. We need to know just what to teach young men and young women in these subjects, and Dr. Robie said that he does not know just what to teach, though he has been going over the literature thoroughly for the last ten years. On certain general points all are pretty well agreed, but no scheme has yet been advanced, no method of teaching has yet been brought forward, that has proven efficacious in every particular. Dr. Robie said that at Clark University he is making studies of individual cases looking to determine what is proper sex hygiene for the young man and the young woman as well as for the adult married or single man, and the adult married or single woman. The method that he has attempted to follow is to take physicians, lawyers, ministers, and successful business men and teachers who have followed some correct method, or who have survived and prospered in spite of an incorrect one; and in those cases, so far as he has been able, he has obtained a detailed sex history from the first beginning of the sexual instinct. This, he said, is a difficult problem and perhaps we are not prepared for it as yet; but he has been surprised up to this time, in the freedom with which men, successful men, have communicated to him their inmost thoughts and feelings of sex. He believes that this is the only way to get at a correct philosophy of the sexual life; that is, by examining into the principle which has carried men and women through the storm and stress of early years to a successful business or professional career. Physicians have been too reticent about this matter. Dr. Robie agreed with Dr. Howard that it is a duty which every physician should impose on himself, to see that the young women in his care are instructed in these matters, while the young men should be instructed by their fathers, as well as by the physician.

DR. J. T. SEARCY, Tuscaloosa, Ala., said that there is one method of teaching this subject that he endorses. It is Nature's way of doing it. Recently he was interested in a young woman attending school and studying biology. It was very easy for her to approach the subject of sex when studying the amebas and protozoa. It was not hard for her to go a step farther and see how in higher multicellular organisms, smaller parts, as cells, were detached and continued their formations of life into the next generation. Then it was easy to go a little higher and see how other still more highly organized individuals could asexually continue themselves into the next generation, by a detached genetic cell; and then, a step further, how there could be what is called parthenogenesis—sometimes, the carrying forward, even after sex was established, a development into the next generation of the cell that the female provides, without coalescence with a cell of the male. And then when she approached firmly established sex differentiation, and found out that the genetic cells were so habituated in their ways, that they could not go into the next generation without coalescence with the cell of the other sex, it was more easy to understand the subject; and, going higher, among the mammals, and up to man, it was easy for the teacher to tell the girl that her developing organs are made to care for the coalesced cell of the next generation, during gestation, and after parturition, during lactation, until the coalesced product of two lines of descent is able to care for itself. There is no mystery attached to this method of approaching the subject of sex. The female everywhere means the specialized individual that cares principally for the coalesced product of the two ancestral lines, during its early growth.

DR. EDWARD L. KEYES, JR., New York, said that it was impossible to cover every side of the question; and that he had hoped to concentrate his paper on one point, from which no one would dissent. The proper way for each physician to do is to affiliate with some one of the many societies springing up all over the country for the discussion of just these subjects. Dr. Keyes stated that he is the secretary of the American Society of Sanitary and Moral Prophylaxis, which has existed in New York, and that has given meetings for about a year before the meeting mentioned, was held in Detroit. The society, he said, has been carried on almost solely by the energetic and untiring efforts of Dr. Prince A. Morrow. The members are endeavoring to discuss such matters and are also endeavoring to circulate literature. They find nobody knows anything about this subject; that everybody can talk, everybody can read papers and not succeed in saying anything; the difficulty is to come right down to what one would tell his own child. Dr. Keyes thinks that the discussion of these matters with parents of families is very essential to the development of our own ideas. The society has gotten out several pamphlets and that is a beginning of what they are trying to do. They hope to get out a lot more, and Dr. Keyes hopes that there will be many societies that will imitate or improve on their methods. He advised talking among one another, talking to patients, to parents of families, and to ministers, and getting the idea of sex education spread abroad so far as we can by practical, individual work. The propaganda is very hard to spread, Dr. Keyes said, at least in his section of the country, against the almost universal disapproval, except on the part of public educators and members of the medical profession.

DISCUSSION

ON THE PAPERS OF DRS. DENNY AND WATSON.

(*Concluded from page 1911.*)

DR. S. M. HAMILL, Philadelphia, asked Dr. Denny whether the babies were fed on breast milk exclusively, or if this was only a part of their nourishment. The use of small quantities of breast milk in the manner indicated by Dr. Denny, is a measure which should be of much value in the feeding of delicate infants. The cause of the benefit derived is exceedingly interesting. The results obtained in determining the relative bactericidal action of the blood of infants fed at the breast or by human milk and those fed on cow's milk are very impressive. Dr. Hamill is not sure that the greater bactericidal power of the blood of breast-fed infants is dependent directly on something contained in the mother's milk and transmitted in that definite form to the child. The results gained by the addition of mother's milk to the ordinary cow-milk mixture are akin to those obtained in the work of Edsall and Miller in the addition of bean flour to milk mixtures. In the majority of their cases of infantile atrophy, which had been either losing persistently or not gaining, there was an immediate gain in weight on the addition of bean flour to the milk mixture. The bean flour added representing only sufficient vegetable proteid to make up for the animal proteid displayed by the bean flour mixture.

The interpretation put on these results was that they were dependent either on the appropriation of the vegetable proteid, or, more likely, on the stimulation of the proteid digestion in such a way as to enable the child to appropriate more satisfactorily the proteid of the cow's milk. It seems to Dr. Hamill that the addition of the mother's milk to these mixtures may act in a somewhat similar way, and that, by stimulating some of the processes within the body it may bring about an increased bactericidal action in the blood without necessarily transmitting to the child such bactericidal properties.

DR. W. L. HOLT, Bunker Hill, Tenn., said that the fact that the percentage of syphilis in infants is so high shows that there must be a great many more cases than are reported, and the mortality in France of hereditary syphilis shows how common it must be in this country. It seems to him that wet nursing is so extremely dangerous a practice that it ought to be discontinued.

DR. H. MCCLANAHAN, Omaha, said that Dr. Denny's paper recalled a case under his care in which a small amount of breast milk for two or three days enabled the child to pass the

critical point in an illness. He is fully convinced of its value. In the foundling institution in Omaha all the babies are bottle-fed. They are not permitted to be adopted until after they are three months of age, the idea being that probably in the first three months of life they will manifest any evidence of hereditary syphilis that may be present. He does not think Dr. Watson meant to say that every foundling should be deprived of wet nursing because some infants have hereditary syphilis. No infant should be deprived of anything conducive to its health.

DR. T. W. KILMER, New York City, said that breast milk, of course, is the ideal baby's milk and he is confident he has saved many infant's lives by its use. He believes that it is a mistake to feed babies exact quantities of milk for different ages. A certain baby can digest just so much food and there is no use in making a baby thin by carrying around more food than it needs. The mortality of foundling institutions mentioned by Dr. Watson seems to Dr. Kilmer to be very high. The majority of the infants in the New York institutions are not breast-fed but the mortality is not nearly so high. Dr. Kilmer considers it a crime to send a baby into a family without a knowledge of its history. Whether it is artificially or breast-fed there is always danger. He agreed with Dr. McClanahan that babies should be kept under observation three or four months to note whether they have any symptoms of congenital syphilis. They should only be bottle-fed after that shows itself. If some such scheme should be adopted by all large cities it would be a great improvement.

DR. GEORGE N. ACKER, Washington, D. C., said that to a certain extent, he thinks Dr. Watson is right in believing that the city should be sued for criminal negligence, but that does not indicate that wet-nursing should be abandoned. In St. Ann's Foundling Asylum, in Washington, the results are better than shown by the mortality mentioned by Dr. Watson. Children should not be placed out unless they have been carefully examined, and then the child should be subsequently examined at intervals. An artificial nipple through which the child nurses, is a commendable plan to adopt. Wet-nursing is the only thing for the child in many cases, and breast milk should be used so far as possible during the summer months in combination with the feeding. In reference to Dr. Denny's statement, that he allows the wet-nurse to nurse two children, Dr. Acker said that the milk differs; the first child would get very poor milk and the second child would get very rich milk.

DR. ISAAC A. ABT, Chicago, believes that everyone agrees that breast feeding or partial breast feeding is not only the best prophylactic against marasmus and infant morbidity in general, but the best food for the treatment of marasmus and other diseases of nutrition. There can be no doubt that it is the physician's duty to save every one of these foundlings that can possibly be saved. If they come as patients, they should receive the best benefit of the medical art. Whether or not large institutions should be maintained as foundling asylums, or whether children should be farmed out in private families, are questions open to discussion but difficult to decide and extremely difficult to deal with in a practical way. After all, it is a shame that in these institutions, year after year, the mortality varies from 90 to 100 per cent. The foundling and infant asylums as they are conducted now are subject to great criticism. The air space in most institutions is deficient; the nursing facilities are inadequate, and the system of artificial feeding very often lacks expert medical supervision. So far as wet-nursing is concerned, it is the only life-saving plan in a large number of cases. Of course, it is deplorable that such an accident should ever occur, as is reported from Baltimore, though with careful medical supervision such accidents should be very rare. Dr. Abt does not think that the practice of wet-nursing in foundling asylums should altogether be condemned. It seems better to ask better medical supervision, better feeding and hygiene, and in all a more scientific management of these institutions.

DR. THOMAS MORGAN ROTCH, Boston, said that the number of babies whose lives have been saved by breast feeding is so enormous, that if possible, all should be fed in this way. Human milk is exceedingly valuable in infantile atrophy and should be tried more frequently than is usual. He agreed with Dr. Watson that many of these babies are infectious. The practice of wet-nursing these foundlings should be carried out only under the strictest supervision and with the exercise of the greatest care to safeguard the wet-nurse.

DR. FRANCIS P. DENNY, Brookline, Mass., referred to Dr. Watson's statement that Boston is carrying on the practice of nursing foundlings and declares that he knows of no institution in Boston where that is done. Dr. Denny thinks that if some charitable institution, preferably a hospital, under medical supervision, would keep at least a registry of wet-nurses whose antecedents are well known, it would be of great benefit. Such an institution, using every precaution, in desperate cases might furnish human milk on short notice. In reply to Dr. Acker's criticism of feeding two children on the same breast, Dr. Denny said that the mother's own child probably took four or five ounces at a nursing and the two sick babies took probably not over an ounce apiece. Granted that the one child got better milk than the other, still it would make no difference in his practice, because breast milk is a luxury, and whether a little better or a little poorer it matters not, so long as one secures human milk for the sick child and can so save its life.

DR. WILLIAM T. WATSON, Baltimore, said he should put Dr. Denny's suggestions into practice. In his own paper he spoke only of foundlings. In the case reported the baby appeared well when it went to the family. It should be remembered that syphilization of innocent women is inherent in the practice of wet-nursing foundlings. It can not be prevented by the most rigid inspection. Infections are due to the practice and not to carelessness of individuals. The baby for two or three months may appear to be perfectly healthy. Syphilitic infection can take place from the most minute lesions on the baby's mouth and into the most minute lesions on the woman's breast. If the dangers of this method of feeding are fairly stated to the wet-nurse the practice will immediately die out.

Medical Education and State Boards of Registration

COMING EXAMINATIONS.

OHIO State Board of Medical Registration and Examination, Columbus, December 11-13. Secretary, Dr. Geo. H. Matson, Columbus.

IOWA State Board of Medical Examiners, Office of State Board of Health, Des Moines, December 11-13. Secretary, Dr. J. F. Kennedy, Des Moines.

VIRGINIA Medical Examining Board, Richmond, December 11-14. Secretary, Dr. R. S. Martin, Stuart.

MARYLAND Board of Medical Examiners, 847 N. Eutaw St., Baltimore, December 12. Secretary, Dr. J. McP. Scott, Hagerstown.

CALIFORNIA State Board of Medical Examiners, San Francisco, December 18. Secretary, Dr. Chas. L. Tisdale, Alameda.

OKLAHOMA Board of Medical Examiners, Guthrie, December 26. Secretary, Dr. J. W. Baker, Enid.

Kentucky August Report.—Dr. J. N. McCormack, secretary of the State Board of Health of Kentucky, reports the written examination held at Louisville, Aug. 1, 1906. The percentage required to pass was 70, and not less than 60 in any branch. The total number of candidates examined was 12, of whom 9 passed and 3 failed. The following colleges were represented:

PASSED.

College.	Year Grad.	Per Cent.
Kentucky School of Med.	(1906) 72, 72, 73, 76, 76.5, 83.5	
Hospital Coll. of Med., Louisville	(1906) 72.5, 80.5	
Louisville Med. Coll.	(1906)	96

FAILED.

Kentucky School of Med.	(1906)*
Hospital Coll. of Med., Louisville	(1906)*
University of Tennessee	(1905)*

* Percentage not given.

Massachusetts September Report.—Dr. Edwin B. Harvey, secretary of the Board of Registration in Medicine, reports the written examination held at Boston, September 11-12, 1906. The number of subjects examined in was 12; total number of questions asked, 60; percentage required to pass, 70. The total number of candidates examined was 74, of whom 45 passed, including 6 non-graduates, 2 of whom were

osteopaths, and 29 failed, including 16 non-graduates, 3 of whom were osteopaths. The following colleges were represented:

PASSED. College.	Year Grad.	Per Cent.
Georgetown University	(1906)	70.6
Illinois Med. Coll.	(1902)	70.1
Rush Med. Coll.	(1905)	80.6
Medical School of Maine	(1903) 74.5; (1906)	76.1
Baltimore Med. Coll.	(1906) 70, 70, 70,	71.5
Johns Hopkins Med. School	(1904) 81.5; (1905) 70.8,	76.1, 78.5; (1906) 80.7.
Boston University	(1904) 72.5, 79.1; (1906)	73.5
Harvard Med. School	(1903) 72.8; (1906) 71.8, 74, 77.7, 84.5,	86.6
Tufts Coll. Med. School	(1906) 70, 71.3, 73.7, 74.1,	74.3
College of P. & S., Boston	(1906)	70, 74.6
Dartmouth Med. Coll.	(1905)	75.8
Bellevue Hosp. Med. Coll.	(1878)	74.1
Cornell University	(1906)	81.8
College of P. & S., New York	(1895) 73.1; (1906)	70.
Jefferson Med. Coll.	(1905)	74.6
University of Vermont	(1906)	70.
Queen's University, Kingston, Ontario	(1905)	79.6
University of Naples, Italy	(1904)	70.

FAILED.		
Baltimore University	(1905) 67.6; (1906)	60.8, 66.8
Baltimore Med. Coll.	(1905) 64.1; (1906)	67.3
Maryland Med. Coll.	(1906)	63.
College of P. & S., Baltimore	(1906)	65.6
College of P. & S., Boston	(1905) 58; (1906)	62.
Eclectic Med. Coll., New York	(1906)	62.3
University of Vermont	(1898)	66.3
Laval University, Quebec	(1904) 51.8; (1906)	58.3

Oklahoma September Report.—Dr. J. W. Baker, secretary of the Territorial Board of Medical Examiners, reports the written examination held at Guthrie, Sept. 25, 1906. The number of subjects examined in was 9; total number of questions asked, 90; percentage required to pass, 66.2 in each branch. The total number of candidates examined was 33, of whom 22 passed and 11 failed. The following colleges were represented:

PASSED. College.	Year Grad.	Per Cent.
College of P. & S., Chicago	(1903) 85; (1906)	85.
Bennett Med. Coll.	(1906)	83.
University of Kansas	(1906)	78.
Hospital Coll of Med., Louisville	(1906)	74, 74.2
Louisville Med. Coll.	(1906)	92.3
University of Louisville	(1905) 75; (1893)	69.3
University of Michigan, Homeo. Dept.	(1906)	72.
University Med. Coll., Kansas City	(1896) 69.2 (1898)	82.
St. Louis University (Marion-Sims-Beaumont Med. Coll.) 88; (1905) 70.		(1897)
University of Missouri	(1906)	88.2
Ensworth Central Med. Coll.	(1906)	74.
Washington University, St. Louis	(1904) 76; (1906)	78.
University of Pennsylvania	(1905)	73.2
University of Nashville	(1901) 69.2; (1906)	68.
Meharry Med. Coll.	(1906)	71.

FAILED.		
Denver & Gross Coll. of Med.	(1906)	61.
Illinois Med. Coll.	(1906)	65.
Kentucky School of Med.	(1892)	58.
University of Louisville	(1895) 63; (1876)	65.
University of Kansas	(1906)	68.
University Med. Coll., Kansas City	(1900)	58.
Barnes Med. Coll.	(1904)	55.
St. Louis Univ. (Marion-Sims-Beaumont Med. Coll.)	(1906)	54.
Eclectic Med. Inst., Cincinnati	(1872)	60.
Hospital Med. Coll., Evansville, Ind.*	(1883)	47.

* This college became extinct in 1896.

Arizona October Report.—Dr. Ancil Martin, secretary of the Arizona Board of Medical Examiners, reports the written examination held at Phoenix, October 1 and 2, 1906. The number of subjects examined in was 9; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 8, of whom 6 passed and 2 failed. The following colleges were represented:

PASSED. College.	Year Grad.	Per Cent.
University of Southern California	(1905)	83.5
Tulane University	(1901)	75.5
Johns Hopkins Med. School	(1905)	81.2
University of Michigan	(1900)	78.
Dartmouth Med. Coll.	(1864)*	
College of P. & S., New York	(1904)	76.

FAILED.		
College of P. & S., St. Louis	(1904)	65.
Med. Coll. of South Carolina	(1893)	59.

* Percentage not given.

Colorado October Report.—Dr. S. D. VanMeter, secretary of the Colorado State Board of Medical Examiners, reports that 48 applicants were licensed at the meeting held at Denver, October 2, 1906. All applicants were submitted to an oral examination; sixteen were required to take a supplementary written examination, but 3 did not comply. Of the 13 who took the written examination, 10 passed and 3 are held in abeyance until the next meeting of the board. One who failed at the July meeting is reported here. The following colleges were represented:

REGISTERED WITHOUT SUPPLEMENTARY WRITTEN EXAMINATION.

College	Year Grad.
Gross Med. Coll.	(1901)
Denver & Gross Coll. of Med.	(1906)
Howard University	(1901)
Hahnemann Med. Coll., Chicago	(1892)
Rush Med. Coll.	(1883), (1894)
Northwestern University	(1904)
College of P. & S., Chicago	(1895), (1898)
Drake University, Des Moines	(1903)
Keokuk Med. Coll.	(1877), (1892)
University of Iowa	(1877), (1899)
Kentucky School of Med.	(1897)
College of P. & S., Baltimore	(1891)
Washington University, St. Louis	(1899)
Hahnemann Med. Coll., Kansas City	(1906)
Missouri Med. Coll.	(1875), (1897), (1898)
Kansas City Med. Coll.	(1895)
St. Louis University (Marion-Sims-Beaumont Med. Coll.) (1894), (1895), (1896).	(1894),
Albany Med. Coll.	(1897)
University of the City of New York	(1886)
University of Buffalo	(1888)
Western Reserve University, Cleveland	(1899)
Medical College of Ohio	(1882), (2, 1897)
Starling Med. Coll., Columbus	(1889)
Jefferson Med. Coll.	(1906)
Western Pennsylvania Med. Coll.	(1891)
Hahnemann Med. Coll., Philadelphia	(1895)
Meharry Med. Coll.	(1906)
Western University, London, Ont.	(1905)
	(1899)

PASSED SUPPLEMENTARY WRITTEN EXAMINATION.

PASSED. College.	Year Grad.	Per Cent.
Denver & Gross Coll. of Med.	(1906)	77.5
Northwestern University	(1906)	72.6, 74.
Rush Med. Coll.	(1901)	71.8
College of P. & S., Chicago	(1905) 74.8; (1906)	77.1
Hospital Coll. of Med., Louisville	(1904) 80.6; (1906)	70.
Barnes Med. Coll., St. Louis	(1905)	72.2
Ensworth Central Med. Coll.	(1906)	71.7

DID NOT TAKE SUPPLEMENTARY WRITTEN EXAMINATION.

College of P. & S., Indianapolis	(1905)
Louisville Med. Coll.	(1879)
Tulane University	(1906)

FAILED AT SUPPLEMENTARY WRITTEN EXAMINATION.

Ohio Med. University	(1902)	46.3

Florida October Report.—Dr. J. D. Fernandez, secretary of the Regular Board of Medical Examiners of Florida, reports the written examination held at Jacksonville, Oct. 17-18, 1906. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 75. The total number of candidates examined was 32, of whom 30 passed and 2 failed. Six applicants withdrew from the examination. The following colleges were represented:

PASSED. College.	Year Grad.	Per Cent.
Medical Coll. of Alabama	(1906)	85
University of Georgia	(1899)	83
Atlanta School of Med.	(1906)	82.1, 83
College of P. and S., Chicago	(1908)	76
University of Louisville	(1893) 81.7; (1906)	96.1
University of Kentucky	(1905)	81.1
Kentucky School of Med.	(1894)	87.2
University of Louisiana	(1868)	75.1
Tulane University	(1906)	90.7, 94.4
University of Maryland	(1894) 75; (1899)	80.1
College of P. and S., Baltimore	(1906)	83
Johns Hopkins Med. School	(1905)	85.7
University of Michigan	(1906)	88.2
Barnes Med. Coll.	(1894) 84; (1903)	81.1
Cincinnati Coll. of Med. and Surg.	(1874) 75; 1880)	91.1
Medical Coll. of Ohio	(1874)	75, 75.6
University of Pennsylvania	(1904) 93.4; (1906)	91
Medical Coll. of South Carolina	(1903)	90.1
Meharry Med. Coll.	(1906)	85, 85.1
University of Havanna, Cuba	(1880)	81
University of Palermo, Italy	(1898)	76.1

FAILED.		
Meharry Med. Coll.	(1905)	64*
* Third failure.		
University of the South	(1901)	61.4

Rhode Island October Report.—Dr. Gardner T. Swarts, secretary of the Rhode Island State Board of Health, reports the written examination held at Providence, Oct. 4-5, 1906. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 75. The total number of candidates examined was 22, of whom 14 passed and 8 failed, including one undergraduate. The following colleges were represented:

PASSED. College.	Year Grad.	Per Cent.
Kentucky School of Med.	(1904)	75.
Medical School of Maine	(1900)	75.
Johns Hopkins Med. School	(1905)	80.1, 83.6
Tufts Coll. Med. School	(1906)	82.6, 84.4
Harvard University	(1904) 80.3; (1906)	82.9, 86.1, 87.2

College of P. & S., New York (1877)	75.
Jefferson Med. Coll. (1906)	88.6
Laval University, Quebec (1905)	78.2
University of Naples, Italy (1900)	75.
FAILED.	
Baltimore University (1904)	65.9
Maryland Med. Coll. (1906)	68.5
Laval University (1904) 71.4; (1905) 69.5, 69.9; (1906)	72.9
University of Naples, Italy (1899)	

Minnesota October Report.—Dr. W. S. Fullerton, secretary of the Minnesota State Board of Medical Examiners, reports the written examination held at St. Paul, Oct. 2-4, 1906. The number of subjects examined in was 15; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 24, of whom 17 passed and 7 failed. One candidate withdrew from the examination. Thirteen reciprocal licenses were granted. The following colleges were represented:

COLLEGES.	Year of Graduation.	Medicine.	Surgery.	Obst., Gyn.	Mat. Medica.	Anat., Hist.	Physiology.	Chem., Tox., and Urinalysis.	Path., Bact.	Prev. Med. and Med. Juris.	General Average.
Harvard University	1904	81	80	93	82	88	96	82	87	81	85.5
University of Minnesota	1906	77	65	70	62	64	98	87	93	78	77.1
University of Minnesota	1906	76	78	73	76	72	89	75	71	76	75.8
University of Minnesota	1906	86	80	80	85	88	87	85	79	76	82.8
University of Minnesota	1905	79	70	85	67	68	82	75	75	75	75.
University of Minnesota	1906	82	75	90	71	92	86	75	75	75	78.1
University of Minnesota	1906	78	77	79	78	75	97	73	79	75	78.1
University of Minnesota	1906	83	74	88	87	89	91	77	76	77	82.3
University of Minnesota	1906	75	83	77	80	90	75	78	77	79	79.3
University of Minnesota	1906	86	75	87	78	88	80	65	71	75	78.3
Hamline University	1905	85	70	85	66	74	81	95	77	77	78.8
Hamline University	1906	75	83	83	78	89	78	70	75	75	78.
Hamline University	1905	75	78	71	78	80	78	75	75	70	76.
Hamline University	1906	75	81	77	72	75	75	75	75	74	75.4
Jefferson Med. Coll.	1897	75	78	77	75	85	75	75	89	75	78.2
Laval Univ., Montreal	1906	81	90	82	83	85	94	80	80	74	83.4
Univ. of Paris, France	1894	86	88	88	85	80	86	87	85	85	85.5
FAILED.											
Coll. of P. and S., Chicago	1906	82	26	80	69	70	75	78	79	75	70.4
Ft. Wayne Med. Coll.	1895	75	70	65	58	57	78	73	71	74	69.3
Hamline University	1906	75	60	82	60	91	85	78	87	75	77.*
Hamline University	1906	70	37	81	59	68	76	75	75	73	68.2
Hamline University	1906	75	70	74	68	60	75	86	86	76	78.†
Eclectic Med. Inst., Cincin.	1899	50	39	63	76	28	75	75	34	73	57.
Jefferson Med. Coll	1906	71	85	67	65	55	78	85	75	67	70.8

* Conditioned in Materia Medica and Surgery.
† Conditioned in Materia Medica and Anatomy.

LICENSED THROUGH RECIPROCITY.

College.	Year Grad.	Reciprocity with.
Colorado School of Med. (1903)		Wisconsin.
George Washington University (1895)		Maryland.
College of P. and S., Chicago (2.1904)	(1905) (1906)	Illinois.
College of P. and S., Chicago (1903)	(1906)	Wisconsin.
Rush Med. Coll. (1904)		Illinois.
University of Iowa (1896)		Iowa.
College of P. and S., Cleveland (1905)		Ohio.
Milwaukee Med. Coll. (1906)		Wisconsin.
Queen's University, Kingston, Ont. (1895)		Illinois.

Montana October Report.—Dr. W. C. Riddell, secretary of the Board of Medical Examiners of Montana, reports the written examination held at Helena, Oct. 2-3, 1906. The number of subjects examined in was 10; total number of questions asked, 50; percentage required to pass, 75. The total number of candidates examined was 22, of whom 10 passed and 12 failed. The following colleges were represented:

PASSED. College.	Year Grad.	Per Cent.
College of P. & S., Chicago (1902) 75, 75.2;	(1906)	75.
University of Michigan	(1904)	78.8, 81.3
University of Minnesota	(1905)	75.5
St. Louis University (Marion-Sims-Beaumont Med. Coll.)	(1905)	82.3
University Coll. of Med., Richmond, Va.	(1905)	81.1
McGill University, Montreal	(1902)	76.
Alexanders University, Helsingfors, Finland	(1896)	75.3
FAILED.		
Hahnemann Med. Coll., San Francisco	(1900)	61.3
Northwestern University	(1906)	71.3
Hahnemann Med. Coll., Chicago	(1905)	61.2
Indiana Med. Coll.	(1905)	67.7
Louisville Med. Coll.	(1904)	65.7
College of P. & S., Baltimore	(1891)	62.6
University of Maryland	(1901)	66.9
Creighton Med. Coll. (1900) 58.6;	(1906)	64.6
University of Wooster*	(1871)	68.9
University of Vermont	(1895)	63.2
McGill University, Montreal	(1889)	66.4

* In 1896 merged with Cleveland College of Physicians and Surgeons to form the Medical Department of the Ohio Wesleyan University.

Therapeutics

Acute Nephritis.

The causes of death from acute nephritis, according to A. Gordon Gullan, are numerous. In children it usually results from some inflammatory complication of the lungs or pleura followed by uremia; in adults uremia is the more common cause, and then dropsy and its results. Secondary inflammations of the serous cavities, notably pericarditis and peritonitis, may be the cause of fatal termination, and then pneumonia and pleurisy may result fatally, especially in adults. Heart failure from general changes in the heart, producing the large left heart, may serve as a cause of death.

The indications for the treatment of acute nephritis, according to Gullan, are: First, to secure rest for the inflamed organ and thus to lessen the tendency to an increase of the inflammation. Second, to counteract the dangers which result from interference with the excretory action of the kidney by stimulating other organs to action, namely, the skin and bowels. Third, to relieve the hyperemia of the kidneys if possible.

The patient should be kept in bed, between blankets and clothed in woolen nightgowns, and should not be allowed to get out of bed under any circumstances.

DIET.

The diet should be such as to throw as little work on the diseased organs as possible, and to meet this requirement, milk, he states, is the best food. For an adult in bed the amount given in the twenty-four hours should be 50 ounces. Four ounces may be given every two hours, and it should be taken warm. If milk is objected to, or causes nausea or dyspepsia, dilute with water, soda water or potash water.

If necessary, buttermilk or skimmed milk may be substituted, although not so nutritious. This diet must be kept up until far into the stage of convalescence, with a gradual return to the normal diet, by adding first a little carbohydrate such as milk pudding, followed by bread and butter, and then a little fish. Nitrogenous food must be avoided if we wish to relieve the kidney from work. If the urine is scanty and very acid, the following may be added to each feeding of milk:

℞. Sodii bicarb.
Potassii citratis, āā ..... gr. x | 65
Aquæ ..... f℥i 30
M. Sig.: To be added to each quantity of milk.

To counteract the dangers which result from the interference with the excretory action of the kidneys, Gullan recommends (*a*) purgatives, and (*b*) diaphoretics.

The best purgatives are the hydragogues, which act, he states, by reducing the renal hyperemia, lowering the blood pressure, relieving the edema and removing from the circulation some of the toxic constituents. Therefore, a good action from the bowels should be obtained twice a day, and for this purpose Gullan recommends the following combinations:

℞. Pulv. jalapæ co. ..... ℥i 4
Sig.: To be taken at one dose at bedtime. Or:

℞. Magnesii sulphatis
Sodii sulphatis, āā ..... ℥iii-iv 12-15
Aquæ ..... f℥i 30
M. Sig.: Take at one dose the first thing in the morning.

He further states that mercurials should rarely be used. Among the diaphoretics he recommends jaborandi in doses of minims xxx to xl (2-2.65) of the tincture, or minims v to x (.30-.65) of the liquid extract. The liquor ammonia acetate in doses of ℥ii to vi (8-25.), or potassium citrate are also of value. He lauds one preparation especially in this connection and that is sodium benzoate, giving it in doses of gr. x to xx (.65-1.30) from the start. He classifies it as a diaphoretic diuretic, and more especially as a disinfectant to the renal tubules. He also thinks that it possesses the property of converting the urates into less irritating and more easily excreted compounds. He favors the following combination:

℞. Tinct. jaborandi ..... m. xxx 2
Sodii benzoatis ..... gr. xv 1
Aquæ chloroformi ..... f℥i 30
M. Sig.: To be taken at one dose and such dose repeated every four hours.

In case diaphoresis does not follow this treatment he recommends hot air baths or the warm pack, and then in case of failure, the administration of pilocarpin gr. 1/10 (.006) is recommended hypodermically, which may be increased to gr. 1/6 (.01) or more. Pilocarpin, however, must be given with care when there are evidences of lung complications and when uremia is present. Digitalis or other stimulating diuretics should be avoided during an attack of acute nephritis except in cardiac failure.

To relieve the hyperemia of the kidney, besides the methods already stated, Gullan recommends that counterirritation be applied to the loins. This, he states, is especially beneficial in the early stages of acute nephritis, especially in cases accompanied by suppression of urine. He applies this counterirritation (1) by means of mustard poultices, (2) by dry cupping, (3) by wet cupping. He prefers the dry cupping, which should be applied over both kidneys and followed by hot poultices. He prefers cups the size of an ordinary teacup or glass. Wet cupping is carried out by the application of leeches.

If, in spite of the treatment outlined, symptoms persist such as headache, restlessness and insomnia, the use of bromids and chloral are of great service and can be given with safety if the tension of the pulse remains good. He, however, advises against the use of morphin and opium in all cases of acute nephritis, as they are not easily excreted by the diseased kidneys and thus produce a toxic effect, and are liable to be followed by suppression and uremia. Hyoscine is a safe hypnotic, given in doses of gr. 1/200 to gr. 1/100 (.0003-.0006). When the anasarca is extreme he recommends several small punctures to afford drainage or the introduction of the Southey tubes through the skin. Exudates in the serous cavities may have to be removed by means of tapping, which is not infrequently followed by a marked increase in the flow of urine. During convalescence the anemia must be corrected by the administration of iron, which must be given with care and at the same time avoiding the astringent preparations.

UREMIA.

If symptoms of uremia develop the condition must be vigorously combated by means of free purgation, free diaphoresis and counterirritation over the loins. If coma and convulsions arise the bowels must be moved by placing a drop of croton oil on the base of the tongue, and by producing sweating by the administration of pilocarpin hypodermically, and the application of hot bottles and blankets locally and hot mustard plasters to the loins. The inhalation of chloroform is of value in giving relief in those cases in which asthma or convulsions are present. He emphasizes the importance of prolonged treatment in the tedious cases of acute nephritis.

Mixtures for Infants.

The following formulas, for children under three months of age, are from Grünbaum's "Pharmacopeia for Infants":

Mistura calcii lactatis:

R.	Calcii lactatis	gr. iii | 20
	Aquæ anethi dil. q. s. ad	f3i 4 |

M. Sig.: To be given at one dose.

Mistura carminitiva:

R.	Sodii bicarbonatis	gr. i | 06
	Spiritus ammon. arom.	m. ss | 03
	Glycerini	m. iv | 25
	Aquæ menth. pip.	f3i 4 |

M. Sig.: To be given at one dose.

Mistura carminitiva cum hyoscyamo:

R.	Sodii bicarb.	gr. i | 06
	Tinct. card. co.	m. iii | 20
	Tinct. hyoscyami	m. i | 06
	Aquæ anethi q. s. ad	f3i 4 |

M. Sig.: To be given at one dose.

Mistura cascaræ sagradæ:

R.	Ext. cascaræ sagradæ liq.	m. ii | 12
	Syrupi zingiberis	m. i | 06
	Aquæ anethi q. s. ad	f3i 4 |

M. Sig.: To be given at one dose.

Mistura cascaræ cum stillingia:

R.	Ext. cascaræ sagradæ liq.	m. i | 06
	Ext. stillingiæ liq.	m. v | 30
	Aquæ anethi q. s. ad	f3i 4 |

M. Sig.: To be given at one dose.

Mistura catechu et cretæ:

R.	Tinct. catechu	m. ii | 12
	Spiritus ammon. arom.	
	Spiritus chloroformi, ää	m. i | 06
	Misturæ cretæ q. s. ad	f3i 4 |

M. Sig.: To be given at one dose.

Mistura cinchona:

R.	Tinct. cinchonæ co.	m. vi | 35
	Syrupi	m. v | 30
	Aquæ q. s. ad	f3i 4 |

M. Sig.: To be given at one dose.

Mistura cretæ astringens:

R.	Pulv. cretæ arom.	gr. ii | 12
	Aquæ camphoræ	
	Tinct. catechu, ää	m. ii | 12
	Misturæ cretæ	m. xx 1 | 30
	Aquæ q. s. ad	f3i 4 |

M. Sig.: To be given at one dose.

Mistura cretæ cum hematoxylo:

R.	Misturæ cretæ	℥ss 2 |
	Tinct. catechu	m. i | 06
	Decoct. hematoxyli q. s. ad	f3i 4 |

M. Sig.: To be given at one dose.

Mistura ferri hypophosphitis:

R.	Sol. ferri hypophos. co.	m. v | 30
	Syrupi	m. x | 65
	Aquæ q. s. ad	f3i 4 |

M. Sig.: To be given at one dose.

Mistura ferri infantibus:

R.	Sol. ferri (dialyzed)	m. iii | 20
	Syrupi	m. x | 65
	Aquæ	f3i 4 |

M. Sig.: To be given at one dose.

Mistura ferri iodidi:

R.	Potassii Iodidi	
	Ferri et ammon. citratis, ää	gr. ss | 02
	Syrupi	m. x | 65
	Aquæ q. s. ad	f3i 4 |

M. Sig.: To be given at one dose.

Mistura ferri lavans:

R.	Magnesii sulphatis	gr. i | 06
	Acidi sulphurici dil.	m. 1/4 | 015
	Ferri sulphatis	gr. 1/10 | 006
	Syrupi simp.	m. x | 65
	Aquæ menth. pip q. s. ad	f3i 4 |

M. Sig.: To be given at one dose.

Mistura gentianæ alkalina:

R.	Sodii bicarb.	gr. i | 06
	Infus. gentianæ co.	℥ss 2 |
	Aquæ menth. pip. q. s. ad	f3i 4 |

M. Sig.: To be given at one dose.

Mistura gentianæ cum rheo:

R.	Sodii bicarb.	gr. ss | 03
	Tinct. gentianæ co.	m. i | 06
	Infusi rhei	m. x | 65
	Spiritus chloroformi	m. ss | 03
	Aquæ menth. pip. q. s. ad	f3i 4 |

M. Sig.: To be given at one dose.

Medicolegal

Practicing Medicine—"Doctor of Neurology and Ophthalmology"—Design of Law—Medical Dictionaries as Evidence.

The Supreme Court of Iowa, in the case of State vs. Wilhite, holds sufficient, and affirms a judgment of conviction on, an indictment which, though inartistically drawn, charged, in substance, that the defendant did wilfully and unlawfully practice medicine and publicly profess to cure and heal the diseases and ailments to which the flesh is heir by means of a certain system, a more particular description of the peculiar and mysterious workings of which was to the grand jury unknown; that he advertised in a certain newspaper that by said system he could cure and heal tuberculosis and cause the same to be cured, as also that he was a "doctor of neurology and ophthalmology," with an office at a certain place and certain office hours; that he maintained such office and had placed

near the entrance thereto an advertisement sign containing the words, "Dr. Wilhite, Neurologist," by means of which advertisement he solicited persons to meet him at his office to participate in the beneficent results arising from treatment under his said system; that he did then and there undertake to cure and heal diseases and ailments, but did not have a certificate or license from the proper authorities so to practice, nor did he file with the county recorder such certificate to practice, and had never applied therefor.

The evidence, the court says, established the defendant's guilt. True, he modestly ascribed to Nature the healing of all diseases, and merely claimed to discover and remove the causes so as to give Nature a chance. To accomplish this he proposed to "stop the leaks in the nervous system and repair the damages done by methodical rest and dietetics." In a long screed criticising the treatment of disease by physicians generally, published in a local paper, he announced himself "the master mechanic of the human body," adding: "The system I practice is taught in but one school in the world, and I am a graduate of that school;" and proceeded: "If your organs are not all working properly call on a master who will remove the cause. If there is a leak of power he stops it. If there is a pressure on some of the shaftings (or nerves), causing a hot box (or pain), he removes it. If the right fuel has not been used, he orders the right kind, and if the fireman does not know how to fire, he teaches him or her the business." And, after quoting a letter said to have been received from a patient, he said: "I do not claim to be a specialist on tuberculosis any more than a great many (in fact, almost all) so-called diseases that the medical men and other specialists have not been able to do much for in the way of curing. This system gives a permanent cure. We prefer those who have tried other systems. In that way we prove the system I practice is the best because we get good results. We do not care much what your troubles are if you want to get well and stay well. Dr. J. C. Wilhite, 526½ Central Avenue Fort Dodge, Iowa." This was a public profession to cure and heal. State vs. Heath, 125 Iowa 585. Publishing his card as "doctor of neurology and ophthalmology" was also a public profession that he was a physician, and this with the assumption of duties as such, by advising patients how to care for themselves so that Nature might effect a cure, constituted practicing medicine within the meaning of the statute. See O'Neil vs. State, 3 L. R. A. (new series) 762 and note.

Continuing, the court says that the defendant complained that if he be adjudged guilty there were others equally so, and many were enumerated who, as counsel seemed to think, must come beneath the ban of the law. But it will be time enough to determine each case when it reaches the court, and should some escape it may afford the accused some consolation to reflect that also at the fall of the tower of Siloam those who escaped were quite as great sinners as the 18 who were crushed beneath its walls. At any rate, the zeal of the prosecutor was not misdirected in this case. The "doctor" left the farm in 1902, and after studying at the "Northern College of Ophthalmology and Otology" two months, was awarded the degree of "doctor of optics." He then pursued a correspondence course in the sams school during the summers of 1902 and 1903 and became entitled to a diploma on the payment of $10. Thereafter he took a "regular course" of three months at the "McCormick Neurological College" and became a "doctor of neurology" March 1, 1905. Aside from this he has read several articles in the magazines and a couple of works on the eye. No argument is required to demonstrate that his preparation was utterly inadequate, and that his pretensions savored of the charlatan and impostor. Even though familiar with his alleged "system," he could not have been reasonably proficient in those subjects essential to the appreciation of physical conditions to be affected by treatment.

The design of the law is not to render any mode of treatment whatsoever unlawful but that every one before he shall undertake to prevent, cure or alleviate diseases and pain as an occupation shall have some knowledge of the nature of disease, its origin, its anatomic and physiologic features, its causative relations and of the preparation and action of drugs. Experience has shown that this is necessary for the protection of the people against fraud and empiricism. No one is thereby deprived of the opportunity to exploit his "system." All that is exacted is that before undertaking to do so by applying it to the functions of life he shall be possessed of that degree of knowledge and skill required by the statute of all and evidenced by a certificate from the proper officers of the state.

The considerations urged in this case against the constitutionality of the statutes were pressed on the court's attention when State vs. Heath, 125 Iowa 585, was decided. See also State vs. Blair, 112 Iowa 466. The court is not inclined to reconsider the conclusions reached in these decisions.

A physician having testified that Dunglison's Medical Dictionary, revised edition, is accepted by the medical profession as authority in the definition of words, and thereupon the definitions of "anatomy," "neurology," "ophthalmology," "pathology" and "physiology" contained therein having been introduced in evidence, over objection, the court holds that, even though the court might have taken judicial notice of the meaning of these words, it was not error to receive a standard medical dictionary in evidence as an aid to the memory and understanding of the court. Bixby vs. Railway Co., 105 Iowa 293, and like cases are not in point. They hold that medical works, treating of the symptoms and cure of disease, are not admissible; not that standard authorities may not be received as proof of the meaning of medical terms.

SOME MASSACHUSETTS LEGISLATION OF 1906.

Prohibits Placing of Offal, Etc., in Milk Cans.

Chapter 116 of the Acts of Massachusetts of 1906 provides for the punishment by a fine of whoever, by himself or his servant, or as the servant of another, having custody of a milk can, measure or other vessel used as a container for milk destined for sale, places or causes or permits to be placed therein any offal, swill, kerosene, vegetable matter or any article other than milk, skimmed milk, buttermilk, cream, or water or other agent used for cleansing said can, measure or other vessel.

Provides for Compensation of Quarantined Wage-Earners.

Chapter 225 of the Acts of Massachusetts of 1906 amends section 42 of chapter 75 of the Revised Laws of that state by adding thereto a provision that when the board of health of a city or town shall deem it necessary in the interest of the public health to require a resident wage-earner to remain within the house or place where he is, or otherwise to interfere with the following of his employment, he shall receive from such city or town during the period of his restraint compensation to the extent of three-fourths of his regular wages, provided, however, that the amount so received shall not exceed $2 for each working day.

Removal to Hospitals of Prisoners for Treatment.

Chapter 302 of the Acts of Massachusetts of 1906 provides that whenever the physician of any prison certifies that a person held therein for trial or sentence, except for a capital crime, requires medical treatment that can not safely or properly be given in such prison, the prison commissioners may temporarily place such person in a hospital. Whenever it appears that a female under sentence in any prison is about to give birth to a child during her term of imprisonment, the physician of the prison where she is held shall send to the prison commissioners a certificate of her condition; and said commissioners shall thereon order her removal to a hospital. A prisoner so removed shall be kept in such hospital until the physician thereof shall certify to said commissioners that she may safely be removed. Any prisoner placed in a hospital in accordance with this act shall, during his absence from prison, be considered as in the custody of the officer having charge thereof, and the time of confinement in said hospital shall be considered a part of the term of sentence.

Labeling Proprietary Drugs and Foods—Cocain, Etc.

Chapter 386 of the Acts of Massachusetts of 1906 provides that on every package, bottle or other receptacle holding any proprietary or "patent medicine," or any proprietary or patent

food preparation, which contains alcohol to an amount in excess of the amount shown to be necessary by the United States Pharmacopeia or the National Formulary as a solvent or preservative of the active constituents of the drugs contained therein, shall be marked or inscribed a statement of the percentage of alcohol by volume contained therein.

Every package, bottle or other receptacle holding any proprietary or "patent medicine" or any proprietary or patent food preparation shall bear a label containing a statement of the quantity of any opium, morphin, heroin or chloral-hydrate contained therein, provided that the package contains more than 2 grains of opium, or more than ¼ grain of morphin, or more than 1/16 grain of heroin, or more than 8 grains of chloral hydrate in one fluid ounce, or, if a solid preparation, in one avoirdupois ounce.

It shall be unlawful for any person to sell, or to expose or offer for sale, or to give or exchange, any patent or proprietary medicine or article containing cocain or any of its salts, or alpha or beta eucain or any synthetic substitute of the aforesaid. It shall be unlawful for any person to sell, or to expose or offer for sale, or to give or exchange any cocain or alpha or beta eucain or any synthetic substitute of the aforesaid, or any preparation containing the same, or any salts or compounds thereof, except on the written prescription of a physician, dentist or veterinary surgeon registered under the laws of the commonwealth; the original of which prescription shall be retained by the druggist filling the same and shall not again be filled. The provisions of this paragraph shall not apply to sales at wholesale, made to retail druggists or dental depots, nor to sales made to physicians, dentists or regularly incorporated hospitals.

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below:

Medical Record, New York.

November 24.

1 *One Hundred Consecutive Laparotomies with Some General Observations, and a Special Reference to Appendicitis. V. F. Marshall and E. W. Quick, Appleton, Wis.
2 *Treatment of Cancer of the Larynx by Subcutaneous Injection of Pancreatic Extract (Trypsin). C. C. Rice, New York.
3 *Treatment of Enlargement of Prostate. J. Pedersen, New York.
4 *Mental Symptoms Due to Disease of Nasal Accessory Sinuses. J. A. Stucky, Lexington, Ky.
5 Diagnostic Value of the Cystoscope and Ureteral Catheter. J. E. Cannaday, Paint Creek, W. Va.

1. One Hundred Consecutive Laparotomies.—Marshall and Quick give the mortality as 2 per cent. There were 18 cases of chronic appendicitis. Some patients were operated on after a single attack in which local tenderness persisted; several were operated on after the second attack, and a few after a dozen or more attacks. The writers do not advise operation after a single attack has subsided, but they invariably advise it after the second. They do not consider any case helpless or any patient too ill to stand an operation so long as the radial pulse can be felt.

2. Pancreatic Extract in Cancer of Larynx.—The hypodermic solution used by Rice in this case contained the trypsin enzyme in its natural association with the other gland constituents, notably the amylopain. This solution was obtained from the fresh gland under rigid aspetic methods. It was a 60 per cent. glycerin extract, sterilized by filtration under pressure, and taken up in vacuum into glass ampullæ and then immediately sealed. The patient whose history Rice reports, was a man 70 years old. He was treated by injections of pancreatic extract, together with the internal use of a similar preparation. This was administered in 3 gr. capsules, three times a day. There was evidently a distinct ameliorating effect by this treatment on the growth, which was considered to be carcinoma. As the patient was obliged to leave this country for a short time, the more permanent results can not yet be reported. Other cases, four in number, have been treated in the same manner. One of these was successful.

3. Treatment of Prostatic Enlargement.—Pedersen says that in the present state of knowledge he does not believe that it is possible to say absolutely when surgical intervention should be advised. More detailed, descriptive and searching statistics, especially as to end results, on both the conservative and the radical sides are needed. The exclusive advocacy of one operation is unwarranted. Various factors should influence the physician in his treatment of these cases. Pedersen believes that the teaching which advises surgical intervention as soon as catheter life fails, comes nearest to being correct. He believes in discriminate intervention as against indiscriminate operating.

4. Mental Symptoms Due to Disease of Nasal Accessory Sinuses.—Stucky shows by the reports of various cases that acute or chronic disease of the nasal accessory sinuses often gives rise to serious forms of mental disturbance. The cases which he has especially observed gave every evidence of chronicity. In these cases the ethmoid cells were extensively involved. The mental symptoms were very marked. Insomnia, mental depression, indifference to conditions or surroundings, morbid suspicions, morbid fears and suicidal inclination are among the symptoms described. As to their cause, toxin-producing bacteria in the gastrointestinal tract combined with the sepsis from pus absorption, the influence of which acts on the cortical cells and nerve fibers of the brain, are probably the chief agents causing the mental disturbance.

New York Medical Journal.

November 24.

6 *Prevention of Epididymitis. W. T. Belfield, Chicago.
7 Present Status of Serotherapy in Surgical Affections. C. A. Powers, Denver.
8 Submucous Resection of the Nasal Septum, and the Merits of Oblique Incisions in Correcting Septal Deviations. T. R. French, Brooklyn.
9 Etiology of Gastric Ulcer. M. R. Barker, Chicago.
10 Address on Tuberculosis Dispensaries and the Coördination of Measures Against Tuberculosis. R. W. Philip, Edinburgh, Scotland.
11 *Insanity of Adolescence. C. C. Beling, Morris Plains, N. J.
12 *A Hemolytic Agent, Probably a Member of the Purin Group, Obtained from the Urine in a Case of Pernicious Anemia. G. W. McCaskey, Fort Wayne, Ind.
13 Antrum of Highmore and Its Infections. C. Graef, New York.
14 Facts from Coroner's Cases. P. F. O'Hanlon, New York.

6. Prevention of Epididymitis.—The operation performed by Belfield does not occlude the vas, a statement based on experimental observations on dogs, and clinical observations on a patient (one of four mentioned) who possessed only one testicle, the other having been removed some years earlier. This man's semen, examined at intervals for six months after the operation, always contained abundant spermatozoa. The operation is performed as follows: The vas is held by the fingers against the skin of the scrotum near the median line, while a half-curved needle is passed through the skin under the vas. A half-inch incision exposes the vas; a transverse or longitudinal incision into the vas opens its canal. The blunted needle (curved) of a hypodermic syringe can be passed into this minute canal, and a watery solution of any chosen agent injected; this liquid traverses the vas and ampulla, and enters into the seminal vesicle. A fine silkworm-gut suture is passed into the lumen of the canal at each extremity of the incision and out through the wall of the vas a quarter inch or more distant; one suture end is then passed through the skin and the two ends tied loosely outside. This suture, entering the lumen of the proximal end, serves to guide the needle when daily injections are to be made. When complete transverse section of the vas is made, the suture arrangement is identical with that described for the fistula formation. When the incision into the vas is longitudinal, an additional suture (catgut) is passed through the edges and tied loosely above the skin. This operation is done under local anesthesia in the office, the patient walking away at its conclusion and losing no time from his vocation. When restoration of the canal is desired, the silkworm suture is tightened so as to oppose the cut ends; when the wound is healed the suture is removed. Restoration of the lumen of an occluded vas is accomplished by excising the occluded portion and suturing the divided ends in the same way; the

lumen of the vas is maintained during healing by the thread within it.

11. **Insanity.**—Beling emphasizes the great necessity for a more thorough knowledge of insanity by the general practitioner; the marked and prompt curability of insanity in its incipiency; the extreme susceptibility of insanity to prevention.

12. **Hemolytic Agent Obtained from Urine in Pernicious Anemia.**—McCaskey claims that in a case of typical pernicious anemia there was, first, an extraordinarily large amount of the xanthin bases, or at least of bodies resembling them by being precipitable by silver nitrate; and second, that these bodies removed from the urine of that case, and held in a 0.05 per cent. solution made isotonic for blood exerted a positive but slow destructive effect *in vitro* on normal erythrocytes. In view of these facts, he concludes that these chemical bodies, whatever their precise nature may be, were the probable agents in the causation of the anemia in this case.

Boston Medical and Surgical Journal.
November 22.

15 Major Symptoms of Hysteria. P. Janet, Paris, France.
16 *Cause of So-called Habitual Lateral Curvature of the Spine. M. Böhm, Boston.
17 Exploratory Puncture of the Pericardium. G. G. Sears, Boston.

16. **Habitual Lateral Curvature of Spine.**—Böhm says that anatomic studies teach that certain pathologic forms of numerical variation of the spine may cause certain kinds of lateral deformities. The *x*-rays show that corresponding clinical types of habitual lateral curvature in the great majority of cases show the variation expected at the seat of the primary curve. Habitual scoliosis manifests itself at the very time at which physiologic growth and changes allow the appearance of curves, based on a varying development. The different affection of the two sides of the spine in habitual lateral curvature corresponds with the peculiar relation of the right and left sides of the spine to the numerical variation. Based on these arguments and on the fact that in 16 out of 20 cases of so-called habitual scoliosis those pathologic types of variation were found at the primary seat of the deformity present, Böhm believes the following statement to be justified: "That developmental error of the human body occurring in embryonic life, which has its morphologic expression in the so-called numerical variation of the spine, causes under certain circumstances those idiopathic lateral deformities of the spine which manifest themselves in the first half of the second decade of life and which hitherto have been considered as affections acquired in postnatal life owing to purely functional or functional-osteopathic conditions. It seems to be the etiologic factor of habitual lateral curvature, better now to be called delayed congenital scoliosis or scoliosis congenitalis tarda."

Lancet-Clinic, Cincinnati.
November 24.

18 Phlyctenular Conjunctivitis. M. Behrman, Covington, Ky.

St. Louis Medical Review.
November 17.

19 *Future of the Medical Profession. J. H. Carstens, Detroit, Mich.
20 *Clinical Psychology. F. P. Norbury, Jacksonville, Ill.
21 *Surgical Principles and Theories. F. F. Lawrence, Columbus, Ohio.
22 Pyelitis in Infancy. H. E. Tuley, Louisville, Ky.
23 Pathologic and Clinical Diagnosis of Sarcoma. (To be continued.) M. G. Seelig, St. Louis.

19.—See THE JOURNAL, Nov. 17, 1906, page 1674.

20-21.—See THE JOURNAL, Dec. 8, 1906, page 1944.

Washington Medical Annals.
November.

24 The Walter Reed U. S. Army General Hospital, District of Columbia. W. C. Borden, U. S. Army.
25 The Hospital. A Proper Place for the Delivery and Management of the Puerpera. N. P. Barnes, Washington, D. C.
26 Review of Ophthalmology. H. A. Polkinhorn, Washington, D. C.
27 Glossitis. Study of Literature from 1816 to 1906. A. B. Bennett, Jr., Washington, D. C.
28 Study of Mitral Stenosis. T. A. Claytor, Washington, D. C.
29 *Case of Splenectomy. J. T. Kelley, Washington, D. C.
30 Interscapulothoracic Amputation for Sarcoma of Arm. E. M. Hasbrouck, Washington, D. C.
31 Case of Ectopic Pregnancy. J. T. Kelley, Washington, D. C.
32 Two Cases of Calculous Pyonephrosis with Nephrectomy. F. R. Hagner and S. Ruffin, Washington, D. C.

29. **Splenectomy.**—Kelley reports the case of a woman, aged 35, a resident of a malarious part of Virginia, whose spleen was about three times the normal size and adherent to the bladder by very dense adhesions and to the uterus by smaller ones. There were also numerous adhesions to the omentum and intestines. On separating the spleen from the bladder, the denuded surface of the latter bled very profusely, requiring a good deal of suturing to control the bleeding. The pedicle of the tumor, which was twisted on its axis, was about two and one-half inches wide, one inch thick and four inches long, after the organ had been released from its position in the pelvis. It was clamped, cut through and the spleen removed. The pedicle was ligated with No. 3 catgut in three places, and sewed over at the cut surface. The rectal temperature was as high as 101 F. for five days, and the patient was very nervous. Again, during the third week, it rose to 101 F., for four days, but fell to normal on the administration of large doses of quinin. During the first two weeks there were night sweats; except for these the recovery was uninterrupted.

Journal of the Kansas Medical Society, Lawrence.
November.

33 The Case of Joseph Huff. A. Haggart, Ottawa, Kansas.
34 Life Insurance Examination Fees. V. E. Lawrence, Ottawa.
35 Cardiac Inadequacy. W. E. McVey, Topeka, Kan.
36 Prevention and Treatment of Puerperal Sepsis. J. D. Clark, Wichita.
37 Gastric Ulcer and Its Medical Treatment. F. B. Lyon, Wichita.
38 Carcinoma of the Stomach. B. M. Barnett, Rosedale.
39 *Abnormalities of the Urine and Their Significance. R. C. Harner, Green.
40 *Some Kitchen Tests to Detect Adulteration in Common Foods. Professor Bailey.

39. **Abnormalities of Urine.**—Harner summarizes his paper as follows: 1. Albuminuria may or may not mean a nephritis, and the mere presence of albumin in a single specimen is not sufficient to condemn a patient as afflicted with an incurable Bright's disease. 2. Glycosuria usually, but not always, signifies diabetes mellitus, which, so far as known, is a disease of the pancreas. 3. Indicanuria is indicative of intestinal indigestion or the presence of putrid pus in any part of the body. 4. The total solids excreted daily afford a measure of the eliminative ability of the kidneys; while the specific gravity of a single specimen is only a fair index and should be considered only a step toward the finding of the total solids. 5. Uric acid and its class with our present lack of accurate knowledge is of little clinical importance.

40. **Kitchen Tests to Detect Adulteration in Common Foods.**—This is an extract from Professor Bailey's article in the September Bulletin of the Kansas State Board of Health.

Journal of Cutaneous Diseases, New York.
November.

41 Lymphangioma Circumscriptum. S. Pollitzer, New York.
42 *Histopathology and the Theory of Drug Eruptions. M. F. Engman and W. H. Mook, St. Louis.
43 *Case of Actinomycosis. J. Zeisler, Chicago.
44 *Histopathology of Paraffin Prosthesis. M. L. Heidingsfeld, Cincinnati, Ohio.
45 Mylasis Dermatosa. A. Strauch, Chicago.

42. **Histopathology of Drug Eruptions.**—The results of Engman and Mook's observations on iodin and bromin eruptions may be stated as follows: 1. The local eruptive phenomena are prone to occur at points of previous inflammation; about comedones, acne lesions, seborrheic lesions, scars, traumata, scratches, etc. 2. Traumata, pressure and quick changes of temperature may precipitate an eruption in tissues charged with the drug. 3. Idiosyncrasy or susceptibility may be admitted as it is in other toxic conditions. 4. The glands or follicles of the skin take no active or specific part in the production of the lesions, and when they are involved, it is secondarily and passively to inflammatory changes about the vessels and in the connective tissue. 5. The gross histologic changes in the skin consist in different degrees of inflammation, from slight changes about the vessels to destructive abscess formation and progressive death of tissue. 6. The minute histologic changes are: (a) Increase of connective tissue cells about the vessels. (b) Appearance of lymphoid-

like cells about the vessels. (c) Addition to these cells of of trifold leucocytes with granular appearance of collagen and vacuolation of fixed connective tissue cells. (d) Local increase of all the phenomena and the formation of an abscess. 7. The first and second conditions are found in the normal skin with iodid eruption. 8. The stages three and four, or the addition of leucocytes and degenerative changes, are induced by local disturbance of normal equilibrium between the iodin combined in the serum and the tissues. 9. This disturbance of equilibrium may be induced by various factors, and when it does occur the resultant product acts as a toxin, which in its turn causes tissue irritation and the production of various local inflammatory symptoms, the type of symptoms and the eruption being dependent on the character of the individual's reaction to the inflammation thus produced, as in any other toxic condition.

43. Case of Actinomycosis.—Zeisler calls attention to the mode of infection through the chewing of grass while golfing.

44. Pathology of Paraffin Prosthesis.—Heidingsfeld says that the histologic changes of paraffin prosthesis indicate that the paraffin is slowly removed and gradually replaced by fibroconnective tissue. Its removal is effected by phagocytosis, by means of successful invasion of inflammatory leucocytes, and their successive degenerations. The prosthesis acts as a foreign body by its mere presence, and becomes promptly encapsulated with newly formed fibroconnective tissue. It stimulates the surrounding tissue to proliferation and adenomatous changes, resembling those of early malignancy. The segregation of the encapsulated paraffin in rounded cavities gives the condition a characteristic Swiss-cheese like appearance, and the successive degenerations of invading phagocytes, corresponding with the duration of the process and the size of encapsulated paraffin, are areas of flattened, nonnucleated cells, giant cells and fibroconnective tissue. These areas are separated by an areola of fibroconnective tissue, which gives to the whole prosthetic area an alveolar-like structure. Its analogy to tuberculosis is marked. The paraffin, like the bacilli, acts as a foreign body, incites a leucocytic invasion, which undergoes degeneration and caseation. This in turn excites another invasion, with the formation of a large number of giant cells from the agglutination of the cell bodies and the preservation of the nuclei. The final goal of each is a complete fibrosis. The disappearance of the paraffin by oxidation or by its movement in solid form along lymph channels is improbable and not confirmed by histologic or physiologic facts. The histologic appearances also fail to furnish any special reason for the crystalline character of the paraffin favoring leucocytic invasion.

University of Pennsylvania Medical Bulletin, Philadelphia.

November.

46 Perinephritis as a Cause of Symptoms Simulating Those of Stone in the Kidney? J. Tyson, Philadelphia.
47 Cryptogenetic Streptococcus Infection with Persistent Cutaneous Eruption, Enlargement of the Lymphatic Glands and Fever Suggesting Syphilis. A. Stengel, J. W. White and J. S. Evans, Philadelphia.
48 *Character of the Thrombi and Necrosis of the Liver, Produced by the Intravenous Injection of Ether. L. Loeb, Philadelphia.
49 *Nucleus Test in Pancreatic Disease. J. D. Steele, Philadelphia.
50 Nitrogen Evolved from Alkaline Sodium Hypobromite Solutions. J. Marshall and L. A. Ryan, Philadelphia.

48. Character of Thrombi and Necrosis of Liver.—The experiments conducted by Loeb show that intravenous injection of ether causes the production of fibrin thrombi. Ether acts by the destruction of cellular elements of the blood (red blood corpuscles, whether other cells are affected is uncertain). Substances are set free which convert fibrinogen into fibrin. These substances are in many respects similar to the tissue coagulins found in other cells, but it is by no means certain that they are identical with those substances. The formation of small leucocytic thrombi found sometimes after injection of ether is probably a secondary process following necrotic changes in the tissues. These necroses represent in part at least a direct action of the ether on the tissues. Following the toxic action of ether on the cells, autolytic changes take place in all probability and produce the morphologic appearances described above.

49. Nucleus Test in Pancreatic Disease.—Steele is of the opinion that the nucleus test is probably a rough indication of the presence or absence of pancreatic secretion, but a case of achylia, to which he refers, and the result of his preliminary experiments on dogs suggest that the relation between the nuclei of muscle cells and pancreatic digestion may not be specific, and that persistence of nuclei may be the result of general lowering of all digestive power quite as much as a sign of insufficiency by the pancreas alone.

The Ophthalmic Record, Chicago.

October.

51 *Unilateral Rotary Nystagmus. A. Duane, New York.
52 High Hypermetropia. T. B. Schneideman, Philadelphia.
53 Instrument with which Powder May Be Introduced Readily Into the Interior of the Eye. M. D. Stevenson, Akron, Ohio.
54 Syphon Eye Compress. O. A. Griffin, Ann Arbor, Mich.
55 *Case of Retinitis Albuminurica Gravidarum. M. V. Ball, Warren, Pa.
56 Spontaneous Dislocation of Both Crystalline Lenses in Two Members of the Same Family. A. A. Hubbell, Buffalo, N. Y.
57 *Black Cataract. S. W. Smith, Denison, Texas.
58 Treatment of Acute Suppurative Dacryocystitis. L. M. Francis, Buffalo, N. Y.
59 *Punctate Forms of Retinitis. H. Gradle, Chicago.
60 Dionin in Diseases of the Eye. R. W. Rutherford, Chatham, Ontario, Canada.
61 Punctate or Hyaline Opacities of the Posterior Lens Capsule. W. F. Mittendorf, New York.
62 Gifford's Lid Symptoms in Graves' Disease. G. L. Strader, Cheyenne, Wyoming.
63 Cataract Extraction with Preliminary Capsulotomy. H. E. Smith, Norwich, N. Y.
64 A Tangent Plane for Accurately Mapping Scotomata and the Fields of Fixation and Single Vision and for Indicating the Precise Position of Double Images in Paralysis. A. Duane, New York.

51. Unilateral Rotary Nystagmus.—The symptoms in Duane's case were: (a) Apparent oscillating movement of objects looked at. This is frequently present in acquired nystagmus and particularly in the unilateral form. (b) A peculiar oscillating diplopia. This could occur only in a unilateral or at least in an asymmetrical nystagmus. (c) The fact that the patient herself could see her own eye oscillate when she looked in a glass. In the present case the refraction was fully corrected. Convergence exercises seemed indicated on account of the convergence insufficiency, and it was thought that systematic practice with the stereoscope would, especially in a case of unilateral nystagmus, facilitate the restitution of a perfectly coördinated movement.

55. Retinitis Albuminuria Gravidarum.—Ball's patient, aged 15, presented herself with the following history: In March, one month previous, she had an acute illness, diagnosed as appendicitis, from which she recovered without an operation. Since then, however, she suffered from severe headaches, had attacks of vomiting and the eyesight became so diminished that she could walk with difficulty. The ophthalmoscope showed a marked hemorrhagic retinitis in both eyes. A specimen of urine examined gave ready reaction for albumin. There seemed to be no outward indication of pregnancy. On May 1 she complained of pain in the abdomen, and a few days later had a bloody discharge. An examination developed an impending miscarriage, and on May 15 a horribly macerated and putrid fetus about four months of age was taken from her. Recovery was uneventful.

57. Black Cataract.—Smith extracted a black cataract from a woman, aged 71. During the fall of 1895 she stepped into the back yard during a thunderstorm and was momentarily stunned by a flash of lightning, from which she soon seemingly recovered, but that night she was stricken with hemiplegia, involving the right side. The remainder of the fall and succeeding winter she was confined to bed, helpless. With the coming of spring she gradually recovered the use of her limbs, and at present there is not the slightest indication that she ever had paralysis, save in the eye. With the disappearance of the paralysis she noticed that the vision in the right eye was growing dim; this condition grew worse as the years passed. She had a high degree of myopia in left eye, and vision for large objects only in the right eye. By no combination of lenses could Smith get more than a black pupil with a faintly luminous reflex like a faint light shining through a smudge of black coal smoke. Not until he used oblique il-

lumination supplemented by the old catoptric test could he determine the nature of the trouble.

After two years he extracted the cataract by the simple method through an incision involving nearly one-half of the cornea. An absolutely clear pupil was secured, but when the usual test for vision was made the patient could only see objects held on the temporal side. As soon as it was safe the fundus was examined and progressive optic atrophy already complete as to the temporal side was found; in other respects the fundus was normal. Two months after the operation the patient could read small print with a minus 10 sphere in nasal field, but nothing in the temporal sphere with any correction. The fundus was visible only with high power minus lens in the ophthalmoscope.

59. **Punctate Forms of Retinitis.**—Gradle's paper is based on the study of eight personal observations, five cases communicated by other Chicago physicians, and all the cases recorded in the literature.

Journal of the Arkansas Medical Society, Little Rock.
October 15.

65 Acute Toxemias of Pregnancy. H. C. Dunavant, Osceola.
66 *Case of Uncontrollable Vomiting in Pregnancy Necessitating Interference. J. W. Meek, Camden, Ark.

66. **Uncontrollable Vomiting in Pregnancy.**—The only food which Meek's patient could retain and which at once allayed the vomiting was dry toast and popcorn. Three days previously the cervix had been dilated thoroughly, although the uterus was not emptied.

Western Medical Review, Lincoln, Neb.
October 15.

67 Factors which Have Contributed to Better Results in Gynecology and Obstetrics. P. Findley, Omaha.
68 *Some Little Known Peculiarities of the Teeth in Hereditary Syphilis. H. Gifford, Omaha.
69 Dynamic Effects of Antipneumococcic Sera in Pneumonia. J. S. Welch, Lincoln, Neb.

68. **Teeth in Hereditary Syphilis.**—Gifford states that in examining the teeth for signs of hereditary syphilis, attention should be directed not only to the central incisors but in proper cases to the following dental peculiarities: (1) Peg-shaped lower permanent incisors; (2) sharply tusked permanent canines; (3) blunt tusked or pegged temporary canines; (4) high, vaulted, imperfectly developed hard palate, preventing the incisors from coming together even when they are of normal size; (5) the tuberculated first molar of Darier; (6) the sloped molar.

Denver Medical Times.
November.

70 Some of the Medicines Used in the Treatment of Gonorrhea. M. H. Sears, Denver.
71 Treatment of Acute Gonorrhea. A. E. Smith, Denver.
72 Treatment of Acute Gonorrhea in the Male. E. Friedman, Denver.
73 Treatment of Acute Gonorrhea. L. V. Howard, Denver.
74 Id. F. E. Estes, Denver.
75 *Physician's Use of Proprietary Medicines. C. F. Andrew, Longmont, Colo.
76 The Country Doctor. B. B. Slick, Ridgway.
77 Alypin; a New Local Anesthetic. C. E. Cooper, Denver.
78 Laboratory Diagnosis for the Practitioner. J. C. Todd, Denver.

75. **Physician's Use of Proprietary Medicines.**—Andrew discusses this question under four heads, as follows: (1) The principal cause for the indiscriminate usage of proprietary nostrums by the profession. (2) The physician and his relation to the pharmacists. (3) Ethical proprietary remedies. (4) The solution of this difficult question. He says let each state board of health be a critic for the profession of the state of all advertisements for "patent" and proprietary medicines to be found in state medical papers and journals, and report the same to all state and county societies and to the Committee on Medical Legislation of the American Medical Association. The nomenclature of all proprietary remedies according to the U. S. Pharmacopeia will do much to solve the problem. Physicians and pharmacists should refuse to handle the proprietary remedies that bear a trade-mark name. Physicians should stop receiving pay for testimonials.

Utah Medical Journal.
November.

79 Prevention and Treatment of Puerperal Fever. J. M. Henry, Payson, Utah.

St. Paul Medical Journal.
November.

80 *Pyloric Stenosis in Infants. W. R. Ramsey, St. Paul.
81 *Structure and Functions of the Thyroid and Parathyroid Glands. D. H. Lando, St. Paul.
82 Ablation and Atrophy of the Thyroid and Parathyroid Glands. T. W. Stumm, St. Paul.
83 *Exophthalmic Goiter. H. Sneve, St. Paul.
84 *Surgical Treatment of Goiter. J. S. Gilfillan, St. Paul.

80. **Pyloric Stenosis in Infants.**—Ramsey reviews the clinical history of 115 cases of stenosis of the pylorus, 55 of which were treated medically (and all of these terminated fatally), and 60 surgically, and reports two cases seen personally. Operation was refused in both instances. The patients died.

81. **Thyroids and Parathyroids.**—Lando summarizes the functions of both the thyroid and parathyroid in the present status of our knowledge as follows: 1. The thyroid gland alone is not essential to life. 2. The thyroid gland produces an internal secretion characterized by its content in iodin. 3. This secretion in itself poisonous is further decomposed before being absorbed by the blood vessels and lymphatics, and these decomposition products are necessary for the proper functions of the tissues. 4. Excision or atrophy of this organ results in loss of this secretion and consequent malnutrition. 5. Overproduction of this secretion leads to an autointoxication. 6. The parathyroids are even more essential than the thyroids and their insufficiency alone produces the symptoms of tetany. 7. The thyroids can in part replace the action of the parathyroids, but not for any length of time; however, the reverse is more compatible with life, and lastly, only by the combined functions of both structures is perfect health possible.

83. **Exophthalmic Goiter.**—The prime object of Sneve's paper is to support the proposition that exophthalmic goiter is a vasomotor neurosis, and that notwithstanding advances in the knowledge of the physiology and pathology of the thyroid, it has not been possible to connect the gland causally with this disease, and we still have merely the purely theoretical assumption advanced by Moebius and others that a hypersecretion of the gland is responsible for this complexus of symptoms. What little is known of the physiology of the sympathetic system supports the contention that the disease is really an affection of the sympathetic system, at least the disease finds its expression through it.

84. **Treatment of Goiter.**—Gilfillan says that although the opinion of a man of Kocher's experience and ability is a weighty argument in favor of surgical treatment, statistics are unreliable, and improvement is a relative term, depending at times on the enthusiasm, possibly on the veracity, of the observer, and it is still impossible to feel that the problem has been definitely solved.

Journal Missouri State Medical Association, St. Louis.
November.

85 *Unusual Retroperitoneal Tumor in the Mesocolon Simulating Impacted Fibroid of the Uterus. W. B. Dorsett, St. Louis.
86 Present Status of Psychotherapy. D. Greene-Wilson, Kansas City.
87 Bronchopneumonia. T. O. Davis, Maitland, Mo.
88 Malaria. T. C. Allen, Bernie, Mo.
89 Tubercular Arthritis. J. H. Tanquary, St. Louis.
90 Some Phenomena of Tubercular Infection. W. Porter, St. Louis.
91 *Spina Bifida. J. D. Sera, Bland, Mo.
92 Treatment of Appendicitis Other Than Surgical. W. S. Allee, Olean, Mo.

85. **Unusual Retroperitoneal Tumor in Mesocolon.**—Dorsett's patient, a woman, aged 48, complained of pain in the gastric region radiating into the left thigh, and constant nausea accompanied by vomiting, which sometimes gave temporary relief. This had lasted in a more or less degree for eleven years. In spite of this most distressing symptom she was fairly well nourished. During this long period of illness she suffered with a heavy dragging sensation in the abdomen and back. On exposing the abdomen, with the patient in the recumbent posture, abdominal palpation was made. This revealed a fairly well-defined mass at the brim of the pelvis. Bimanual palpation revealed a somewhat fixed mass in the pelvis and a crowding down of the pelvic viscera. This mass

could not be dislodged from the pelvis by pressure exercised from below in the proper axes of the pelvis. When the abdomen was opened a rather flat mass was seen lying at the brim of the pelvis, closing off the pelvic cavity from the general abdominal cavity. Along the brim of the pelvis, anteriorly, could be seen bowel, which on careful examination proved to be a part of the transverse colon. This bowel encircled the anterior border of the tumor. It was only with some difficulty that it could be dislodged, as its posterior border was under the promontory of the sacrum and its anterior border was wedged in behind the pubic bone. The whole mass was crowding the small intestines into the pelvis. Superimposed on the tumor was a coil of colon from each side, and above this again was the stomach. After a careful inspection it proved to be postperitoneal in origin and lay between the layers of the transverse mesocolon.

91. Spina Bifida.—Seba reports three cases. One patient, was operated on when only three hours old and made a good recovery. Another did not receive any surgical treatment and died when about two years old. In the case of the third patient, a girl about 12 years old, the sack or tumor gradually drained itself, became atrophied, and folds and nodules appeared, to some extent resembling the convolutions of the brain.

Texas State Journal of Medicine, Fort Worth.
November.

93 Mental Defectives—Their Treatment and Training. E. M. Barrett, Austin, Texas.
94 Abortion, Its Diagnosis and Treatment. J. A. Rawlings, El Paso.
95 Ectopic Gestation. J. G. Sherrill, Louisville, Ky.
96 *Puerperal Infection—From a General Practitioner's Standpoint. G. M. Hackler, Dallas.

96. Puerperal Infection.—Hackler concludes that the liability to puerperal infection will be materially lessened by observing the following: (1) The maintenance of asepsis by the obstetrician and nurse, before, after and during delivery; (2) the restriction of vaginal examinations within the narrowest limits possible; (3) the omission of vaginal douches, except in certain rare cases, in which cases sterile water or salt solution should be used; (4) administration of small doses of ergot, three times daily, to secure better contractions and involution of the uterus, thereby occluding to a greater degree the uterine lymphatics; (5) immediate repair of all perineal lacerations extending deeper than the mucosa, which might otherwise offer foci for infection.

Interstate Medical Journal, St. Louis, Mo.
November.

97 *Diseases of the Kidneys as Indications for the Interruption of Pregnancy. H. Schwarz, St. Louis.
98 *Tuberculosis as an Indication for the Interruption of Pregnancy. L. M. Warfield, St. Louis.
99 *Indications for the Interruption of Pregnancy in Reference to Heart Diseases. W. H. Vogt, St. Louis.
100 *Hyperemesis as an Indication for the Interruption of Pregnancy. B. W. Moore, St. Louis.
101 *Ethics and Laws Regarding the Interruption of Pregnancy. F. J. Taussig, St. Louis.

97 to 101. See abstract in THE JOURNAL, Oct. 27, 1906, page 1398.

Indiana Medical Journal, Indianapolis.
November.

102 Prophylaxis of Diabetes and the Clinical Determination of the Glycolytic Functions. G. W. McCaskey, Fort Wayne, Ind.
103 Physical Examination in Hypertrophy of Prostate. E. L. Keyes, Jr., New York City.
104 Phenomena of Life.
105 Irrigation and Drainage of the Seminal Duct and Vesicle Through the Vas Deferens. W. T. Belfield, Chicago.

Texas Medical News, Austin.
November.

106 Adrenalin Chlorid in the Treatment of Rattlesnake Bite. A. D. Ferguson, Dallas.

The Medical Standard, Chicago.
November.

107 German Gynecology. L. Waite, Chicago.
108 Notes from Nothnagels' Clinic. H. B. Hassin, Chicago.
109 Head Sections, with a Superior Method of Illustrating Anatomic and Surgical Subjects. E. E. Clark, Danville, Ill.
110 Interstitial Nephritis. G. W. Finley, Brazil, Ind.
111 Practical X-ray Therapy. N. M. Eberhart, Chicago.
112 The Appetite Cure. N. H. Buskett, Coffeyville, Kan.

Central States Medical Monitor, Indianapolis.
November.

113 Acute Retention of Urine Treated by Immediate Progressive Dilatation. G. Link, Indianapolis.
114 Practical Anesthesia. J. W. Wiltshire, Bloomington.
115 Cold Air as a Therapeutic Agent. G. D. Lind, Richmond, W. Va.
116 Exuberant Granulations. J. H. Ford, Indianapolis.

Montreal Medical Journal.
November.

117 The Year's Work—Address of the President of the Montreal Medico-Chirurgical Society, Oct. 5, 1906. F. R. England, Montreal.
118 Two Cases of Tubal Pregnancy. A. L. Smith, Montreal.
119 Teaching of Anatomy in Universities and Medical Schools. A. Robinson, Montreal.
120 Relation of Gynecology to the Work of the General Practitioner. A. H. F. Barbour, Edinburgh, Scotland.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal.
November 10.

1 *Insanity of Childbirth. A. Rigden.
2 Ethyl Chlorid as a General Anesthetic in Conjunction with Ether. G. W. B. Daniell.
3 *Case of Quinin Hemoglobinuria or Blackwater Fever. A. D. Ketchen.
4 *Tetanus in Two Brothers; Subdural and Subcutaneous Injections of Serum; Recovery. J. Adam.
5 *Improved Methods for Recognition of Blood and Seminal Stains. E. H. Hankin.
6 *Enlargement of the Prostate and Its Treatment. G. A. Bingham and C. B. Shuttleworth.
6½ *Enucleation of the Prostate. J. L. Thomas.
7 Posture as an Aid in Surgery. M. MacLaren.
8 Fracture Dislocation of the Spine. A. B. Welford.
9 *Operative Treatment of Irreducible Luxation of the Semilunar Cartilages of the Knee Joint. J. Bell.
10 Case of Extensive Tuberculous Ulceration of the Small Intestines. F. J. Shepherd.
11 Splenectomy and Banti's Disease. G. E. Armstrong.
12 *Surgical Treatment of Chronic Colitis. I. Olmsted.
13 One Hundred Consecutive Cases of Appendix Operation. H. W. Carson.
14 *Treatment of Congenital Clubfoot. R. E. McKenzie.
15 Surgical Relations of the Parathyroid Glands. W. G. MacCallum.
16 Intestinal Obstruction With or Following Disease of the Vermiform Appendix. N. A. Powell.
17 *Surgical Treatment of Ascites Secondary to Vascular Cirrhosis of the Liver. S. White, H. G. Turner and J. Stewart.
18 *Surgical Treatment of Duodenal Ulcer. W. J. Mayo and G. C. Franklin.
19 Acute Septic Peritonitis. C. J. Bond and H. Howitt.

1. Insanity of Childbirth.—Rigden concludes that puerperal insanity is typically an acute mania, any one of the so-called causes of insanity, for example, fright, shock, undue worry, or a neurotic inheritance will render the patient liable to an attack. He does not think the theory that sepsis is invariably present can be sustained, though a considerable proportion of cases are undoubtedly septic. The prognosis is favorable, and, with a good family history, and in the absence of septic poisoning, Rigden says that recovery may be anticipated within six months, and subsequent attacks are not greatly to be feared. Special symptoms must be dealt with as they arise, but the essence of treatment consists in an abundance of bland and nutritious food and competent nursing.

3. Quinin Hemoglobinuria.—The point of interest in Ketchen's case was that blackwater fever invariably followed the administration of quinin, often in very small doses, in a patient with chronic malarial poisoning, but who had been free from blackwater fever or malaria for 14 months.

4. Tetanus.—The two cases reported by Adam present a curious contrast. The first, the younger brother, of slight build, had a number of severe and dirty wounds, presented no tetanic symptoms till the tenth day, and had a severe attack. The second had a trivial injury, yet although he developed tetanic symptoms within 70, if not 60, hours, he had a much less severe illness than his brother—that is, the severity of the illness was related to the severity of the injury, and therefore probably rather to the quantity of the poison than to its virulence.

5. Recognition of Blood and Seminal Stains.—In dealing with almost insoluble seminal stains, Hawkins attempted to take advantage of the known solvent action of potassium cyanid on proteid matter. He found that spermatozoa were rap-

idly disintegrated under the action of this reagent, unless they were first hardened by immersion in boiling water. The suspected seminal stain is first placed for a minute in boiling water. It is allowed to cool. It is then placed for two minutes in a 2 per cent. solution of potassium cyanid. It is then rapidly washed in distilled water, placed on a glass slide, teased up and scraped, and larger pieces of the cloth are removed. The film on the slide is dried at air temperature; it is then fixed by heating, stained with gentian violet, and examined. This treatment gave distinctly better results than methods previously used, but was not quite satisfactory in that the tails of the spermatozoa were not always adequately stained. Better results may be obtained as follows: 1. The suspected stain is boiled for two minutes in a watery solution containing tannin 0.5 per cent., and sulphuric acid 1 per 1,000. 2. The stain is washed for two minutes in a solution made by adding one part of saturated ammonia solution to 400 of water. 3. It is then transferred for two minutes to a 2 per cent. solution of potassium cyanid. 4. It is then rapidly washed in distilled water, scraped and teased up on a glass slide, dried, fixed by heat, and stained.

6. **Treatment of Enlarged Prostate.**—Bingham states that statistics favor the perineal route. Dr. Watson's table shows a mortality of 6.2 per cent. for the perineal route and 11.3 per cent. for the suprapubic method. More recently Tenney and Chase have made a very careful compilation of more than 1,000 cases with a similar result. In 1905 Mayo, who uses the perineal route, operated on 63 cases, with 7 deaths.

6½. **Enucleation of Prostate.**—Thomas' personal experience is limited to 31 cases, 29 suprapubic and 2 perineal. He concludes that in enucleation of the prostate there is no choice between the suprapubic and the perineal routes so far as the incidence of mortality is concerned. The suprapubic and the perineal routes are sometimes followed by disappointing results, such as stricture of the urethra, fistula (urinary or recto-perineal), interference with the sexual functions, while the prospects of complete recoveries are about 14 per cent. in favor of the suprapubic route. Enucleation of the prostate in bad septic cases should be done in two stages. The suprapubic route is more suitable for tumors of the middle lobe, for removal of calculi and the control of hemorrhage when they coexist. The suprapubic route is unsuitable for surgeons with short fingers or with flexible, thin nails. There is no justification from postmortem evidence of cases in which the prostate had been removed that the whole prostate has ever been removed. Anatomically, it is not possible to remove the prostate in one mass without also removing with it the prostatic urethra.

9. **Irreducible Luxation of Semilunar Cartilages of Knee Joint.**—Bell reports four cases of irreducible luxation of semilunar cartilages of knee joint in which operation was done through a free anterior opening of the joint by transpatellar incision. The joint was laid open freely, just as for suture of a freshly fractured patella. In each of these four cases there was a condition of cartilage which necessitated removal. The operation was simple and precise, and recovery was uneventful and not unduly prolonged, and the final functional result was entirely satisfactory. The advantages claimed for this procedure are: Greater ease and accuracy in the removal of the torn and displaced cartilages; less manipulation and, therefore, less injury to the joint structures; less risk of infection; a better functional result; and, in general, a better control of all stages of the treatment, with a convalescence only slightly prolonged on account of the necessity for obtaining bony union of the patella.

12. **Surgical Treatment of Chronic Colitis.**—Olmsted reports four cases, in two of which a colostomy was done with a good result following. In the two remaining cases only the appendix was removed, with an almost immediate recovery.

14. **Treatment of Congenital Clubfoot.**—McKenzie summarizes his paper as follows: 1. The prognosis in ordinary, nonparalytic clubfoot is good. 2. The ideal time for active treatment of the surgeon is early in the second year. 3. The deformity of the foot *per se* should be fully corrected; afterward the relation of the foot to the leg. 4. Cutting, other than a subcutaneous section of the tendons, ligaments and fascia is seldom or never required. Manipulative replacement and retention by fixed dressings are sufficient. 5. After-treatment consists in a retentive high brace and a properly constructed leather day boot. 6. The open incision and removal of bone are unnecessary and harmful. 7. The radical operations interfere materialllly with the natural growth and development of the foot. 8. Restrictive methods, either by dressings or apparatus, should be employed as little as possible. 9. Persistent manipulation improves function and development. 10. Operative treatment must be thorough. No part of the correction of the deformity should be left in the hope that mechanical means will complete the work. 11. In persons under 15 years of age congenital clubfoot may be so perfectly cured as to give practically perfection of form and function. 12. In adults perfection of form may be secured. Function is sometimes impaired owing to the fixity of habits hitherto acquired. 13. The time required for active surgical treatment need not be more than three months. 14. Age is no bar to successful treatment. Eminently satisfactory results may be obtained in adult life. Even in the case of adults the more heroic methods of operation in many cases are not called for.

17. **Surgical Treatment of Ascites.**—White's paper is a most excellent and thorough discussion of this subject, embracing a complete review of 227 published cases and a report of four additional cases.

18. **Surgical Treatment of Duodenal Ulcer.**—Of a total of 188 duodenal cases reported by Mayo 175 patients were operated on for chronic ulcer, with 2 deaths; 10 for acute perforation, with 4 deaths; and 3 for repeated acute hemorrhages, with one death. Between Jan. 9, 1904, and June 5, 1906, 134 patients were operated on. Of these 103 were traced as to their present condition; 93 were cured, or so greatly improved as to consider themselves practically well; 8 were unimproved, some improved but had relapsed, and only 2 were reported worse. In 7 cases only the ulcer could not be demonstrated without opening the intestinal cavity, although in the thick-walled stomach 13 in the 100 could not be shown from the exterior of the gastric wall. Gastrojejunostomy, he states, is the operation of choice for chronic duodenal ulcer; it diverts the irritating material and permits of permanent healing. In performing gastrojejunostomy the Mayos practice, whenever possible, the posterior no-loop method. In a few cases they have directly excised duodenal ulcers with plastic closure or end-to-end union. In an experience of 1,112 duodenal and gastric operations, only twice have they seen primary cancer of the duodenum, once developing on an ulcer base. For recurring acute hemorrhages they have twice excised ulcers and once opened the duodenum and sutured the bleeding point in the mucosa. For acute duodenal perforation they sutured transversely and instituted pelvic drainage, the patient being maintained in a nearly sitting posture for several days. In 3 out of 10 cases of acute perforation they made a gastrojejunostomy at the same time.

The Lancet, London.

November 10.

20 *Rectal Alimentation. S. J. Sharkey.
21 Adolescent or Late Rickets. H. H. Clutton.
22 *Stokes-Adams Disease and Cardiac Arrhythmia. J. Hay and S. A. Moore.
23 Determinations of the Amount of Physiologically Active Hydrochloric Acid in the Stomachs of Normal Mice and of Mice Suffering from Cancer Experimentally Produced. S. M. Copeman and H. W. Hake.
24 Erythema Autumnale. Harvest Rash, or Prurigo du Rouget. J. C. Threash.
25 Treatment of Laryngeal Tuberculosis. H. Barwell.
26 *Is Sulphate of Soda a True Intestinal Antiseptic? J. Maberly.
27 Spirilla of the Mouth. K. W. Goadby.
28 Case of Sclerema Neonatorum. R. Waterhouse.
29 Needs of the Body on Sunday. H. Handford.

20. **Rectal Alimentation.**—Sharkey believes that sugar, peptones and pulverized casein are the best constituents for use in rectal alimentation.

22. **Stokes-Adams Disease.**—In this communication Hay and Moore record a case of Stokes-Adams disease in its second stage—that is, in the stage of syncopal, apoplectiform, or epileptiform seizures. These seizures were of all grades of sever-

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ity and tended to occur in groups with periods of comparative comfort intervening. The advent of seizures was usually indicated by definite prodromal symptoms. The necropsy revealed partial obliteration of the auriculoventricular bundle; this would cause a persistent depression of conductivity. An analysis of numerous tracings revealed marked variations in conductivity, all grades from normal conduction to complete heart-block being in evidence at one or another time. This suggests influences in addition to the organic lesion. Such influences were probably nervous in character and affected conductivity either directly through the vagus or indirectly by altering the auricular frequency.

26. Is Sulphate of Soda a True Intestinal Antiseptic?—Maberly claims that sulphate of soda has an action over and above that of a mere aperient and liver stimulant, one which points strongly in the direction of its being an intestinal antiseptic.

Journal of Tropical Medicine, London.
November 1.

30 Note on a Leucocytozoon Found in Mus Rattus in the Punjaub. J. R. Adie.
31 Occurrence and Habits of Some Species of Human Biting Flies Belonging to the Families Tabanide and Muscide (Glossina), from the West Coast of Africa. G. C. Dudgeon.
32 Some of the More Obvious Disease Conditions Seen on the Line of the Projected Lobito-Katanga Railway. F. C. Wellman.
33 Two Cases of Fronto-Nasal Cephalocele. A. Robertson.

The Dublin Journal of Medical Science.
October.

34 Clinical Pictures of Children's Disease. (To be continued). W. L. Symes.
35 Use and Abuse of Alcohol. (To be continued). R. J. Kinkead.

Calcutta Medical Journal.
September.

36 Toxic Principles of the Fruits of Luffa Egyptiaca Mill (Bitter Variety). C. L. B. Babadur.
37 Hematemesis in Cholelithiasis. M. Mitra.
38 *Raw Meat Juice in Malassimilation in Children. I. Mallick.

38. Raw Meat Juice in Malassimilation.—Mallick emphasizes the extreme importance of a proteid diet in the healthy development of children. Raw meat juice when well prepared, free from fat and given fresh, is tolerated with the greatest ease and yields the best result, while egg albumin, white or yellow, is rather more difficult to digest in the beginning. If, however, we judiciously persist in giving egg either alone or mixed with milk, or administer raw meat juice for a few days before commencing egg, even egg albumin is well tolerated and causes marked improvement. It has the advantage of being very simple and cheap and easily manageable, whereas meat juice is expensive and much more difficult to prepare or to keep. The yolk is richer and heavier than the white of egg, because it contains a large percentage of fat (48 per cent.). Soup or broth has much less effect in increasing the weight, but keeps up strength and enriches the blood. After the power of digestion is re-established, more fat should be added cautiously; the gain in weight is considerably increased by so doing. Yolk of egg is useful in this way, as it also contains fat. Cleanliness and sterilization of food are very important.

Bulletin de l'Académie de Médecine, Paris.

39 (Year LXX, No. 35.) Transformation of Cancer into Connective Tissue Under the Influence of Cancroin.—Transformation du cancer en tissu conjonctif sous l'influence de la cancroine. A. Adamkiewicz.
40 *Miliary Fever and Rats.—La suette miliare et le rat des champs. Chantemesse, Marchoux and Haury.

40. Miliary Fever and Rats.—Chantemesse advances a number of arguments to support the unproved hypothesis that field rats are responsible for the transmission of miliary fever and for the epidemics. Among these arguments are the fact that miliary fever is never observed in cities; the absence of direct contagion; the fact that the regions affected in some recent large epidemics were always and exclusively those which had been ravaged by field rats during the last few years while other regions, free from rats, escaped; the fact that the epidemics broke out after an unusually wet season which had driven the rats from their haunts to seek shelter in the houses, and, finally, by the fact that the persons affected all showed evidences of flea bites and attributed the unprecedented swarms of fleas to the invasion of homes by the rodents. Still another argument was the rapidity with which the disease spread. One person would be taken one day, the next there would be 10, and by the third day 40 or 50. In 45 days the disease spread like a prairie fire over three provinces, affecting 6,000 individuals, almost the entire population taking to bed at once.

Presse Médicale, Paris.

41 (XIV, No. 85.) *La claudication intermittente de la moelle (originating in the spinal cord). P. Sollier.
42 La signification des sulfo-éthers urinaires. H. Labbé and G. Vitry.
43 (No. 86.) Examination of the Liver.—Examen du foie. M. Letulle.
44 Hygiène de la lumière (of light in dwellings). A. A. Rey.
45 (No. 87.) Inondation péritonéale au cours de l'avortement tubaire (tubal abortion). L. Bazy.
46 Quelques préparations à base d'hammamelis virginica. A. Martinet.

41. Spinal Intermittent Claudication.—Sollier describes a case of intermittent claudication due to defective circulation in part of the spinal cord. The syndrome was described by Dejerine in contrast to Charcot's intermittent claudication from peripheral arteritis in the legs. The process occurring in the spinal cord has more serious results than in the leg. It is a rare affection, Dejerine having encountered only 3 new cases, since his first description, reported last April in the *Revue Neurologique*. The process is undoubtedly, he states, of a syphilitic nature, although the patients may deny infection, and mercurial treatment should always be instituted at once and pushed. The pulse in the arteries of the legs is normal, and there are no vasomotor disturbances as in the peripheral form. The knee jerk and tendon reflex are exaggerated, especially after walking, and spinal trepidation and Babinski's sign may be observed, with disturbances in the bladder and sexual functions. In Sollier's case the patient was a man of 54 with syphilitic antecedents. The first symptoms were sudden weakness in the arms and slight diplopia, subsiding after two months, but returning the year after with great lassitude. The man took a course of mercurial inunctions and conditions were restored to normal for two more years, when the symptoms reappeared in exaggerated form and were again dispelled by mercurial treatment, but returned again and became chronic, the arms and legs feeling weak and as if they weighed each a hundred pounds. There were symptoms of typical intermittent claudication, the legs were subjectively chilly to the knees and the gait was like that of an automaton; the patient finally became nearly helpless. Under repeated and intensive mercurial treatment the condition has been much ameliorated and the man can now walk and get about, with frequent stops to recuperate. The improvement has been gradual, but is so marked that he will probably escape the impending spasmodic paraplegia. The parallelism of the ocular troubles and the fact that the arms were affected with the legs shows that the process affected more than merely the dorsal and dorso-lumbar regions of the cerebro-spinal axis cylinder, in which this case differs from those previously reported. This may also serve to differentiate the spinal from the peripheral form. Grasset has recently called attention to the syndrome of intermittent claudication from a lesion in the posterior spinal cord.

Semaine Médicale, Paris.

47 (XXVI, No. 44.) Appendicite ou fièvre typhoïde? F. Lejars.

Berliner klinische Wochenschrift.

48 (LXIII, No. 42.) *Failures in Tendon Transplantation.—Misserfolge der Sehnenüberpflanzung. O. Vulpius.
49 *Zur Früh-Diagnose des syphilitischen Primär-Affektes. F. Danziger.
50 *Zur Serum-Behandlung der Syphilis. C. S. Engel.
51 "Die Silber-Spirochæte." C. Levaditi (Paris).
52 Construction and Equipment of Modern Operating Rooms.—Moderne Operationsräume. M. Martens.
53 (No. 43.) *Methämoglobin-Vergiftung durch Sesamöl (Interlication with sesame oil). E. Rautenberg.
54 Ueber Wärme-Wirkung bei Finsen-Behandlung. H. Jansen (Copenhagen).
55 Zur Cytologie des gonorrhoischen Eiters (pus). H. L. Posner.
56 Externe oder interne Operation der Nebenhöhleneiterungen (suppurative sinusitis). M. Halle. (Concluded.)
57 (No. 44.) *Ueber das Marmorek-Serum in der Therapie der chirurgischen Tuberkulosen. A. Hofa.
58 *Ein einfacher Kunstgriff zur Erzeugung des Knie-Phänomenons. G. Krönig.
59 Ueber die diagnostische Bedeutung der Spirochæta pallida. E. Hoffmann.

60 Ueber ein Toxolecithid des Bienengiftes (bee poison). J. Morgenroth and U. Carpi.
61 *Eine neue Reaktion auf freie Salzsäure im Mageninhalte (free acid in stomach content). F. Simon.
62 Zur hydrotherapeutischen Behandlung der Tabes dorsalis. A. Laqueur.

48. Indications and Technic for Tendon Transplantation.—From his extensive experience Vulpius has learned a number of lessons in regard to tendon transplantation. Dangers threaten it from beginning to end, he remarks, but caution, perseverance and increasing experience have rendered it possible to count on successful results in the great majority of cases. The more circumscribed the paralysis the better the outcome. The condition of the non-paralyzed muscle is also of the greatest importance, and he now refrains from transplantation if the muscle is of dubious strength and integrity. He reviews the various causes for failure under different conditions, and declares that it usually depends on the after-treatment whether the full harvest is reaped or not. Peripheral, lax and spastic paralysis can all be benefited by tendon transplantation, and good results may be obtained even in progressive atrophy of the muscles.

49. Early Diagnosis of Syphilis.—The discovery of the pale spirochete in the primary lesion enables the early diagnosis of syphilis before any other clinical manifestations develop.

50. Serum Treatment of Syphilis.—Engel injects rabbits with serum from syphilitics and then injects the prepared serum into syphilitic patients. He reports his experiences in three cases, which he thinks justify further experiments in this line.

53. Intoxication with Sesame Oil.—Rautenberg describes a seventh case of serious symptoms after intestinal injection of sesame oil. The spectrum showed methemoglobin in the blood; this appeared also in the urine. The symptoms included loss of consciousness, occasional arrest of the respiration and pulmonary edema, requiring the most vigorous measures. He ascribes the trouble to adulteration of the oil.

57. Marmorek's Serum in Surgical Tuberculosis.—Hoffa has used the serum in 40 cases and found rectal injection a most convenient mode of administration, while the serum proved as effectual by this as by other routes. His experience confirms its absolute harmlessness and its frequent specific curative influence on the course of a surgical tuberculous process. From 5 to 10 c.c. were injected into the rectum daily and the effect was promptly evident. In one case a fistula which had persisted unmodified by treatment for two years, closed after the third subcutaneous injection of the serum, but opened again as the serum was suspended, and then permanently healed under 14 rectal injections. The particulars of 11 ambulant cases are tabulated.

58. Aid in Eliciting Knee Phenomenon.—Krönig tells his patients to draw a deep breath and to look at the ceiling at the word "now." As they do this he tests the knee jerk, and in hundreds of tests has never found this simple measure to divert attention fail.

61. Reaction to Free Hydrochloric Acid in Stomach Content.—Simon describes a test for free acid which is accurate enough for all practical purposes and is extremely simple and convenient. As much dry pulverized guaiac resin as can be taken up on the point of a knife is dissolved in 5 c.c. of a mixture of one part spirit of nitrous ether in four parts alcohol, and the mixture is poured on top of 5 c.c. of filtered stomach content. A gray ring forms at the zone of contact which, in the presence of free hydrochloric acid, turns blue. If the amount present is very small the color reaction is more of a greenish tint. Stomach content giving only a very faint response to the Günzburg reaction showed up well in this new reaction.

Deutsche medizinische Wochenschrift, Berlin and Leipsic.

63 (XXXII, No. 42.) *Behandlung des Furunkels, Karbunkels und der Phlegmone. Enderlen (Basle). Clinical lecture.
64 *Zur Kenntnis des Carcinoms. Ribbert (Bonn).
65 *Diagnostische Bedeutung des Blutgehalts und der Lymphocytose im Liquor cerebrospinalis (zugleich ein Beitrag zur Kasuistik der basalen Hirn-Aneurysmen). J. Ohm.
66 *Ueber unsere Kenntnisse von den Erkrankungen des Blutes (affections of blood). M. Mosse.
67 Further Proofs of the Permanent, Deep Action of Hot Water-Alcohol Disinfection of the Hands.—Dauernde Tiefenwirkung der Heisswasser-Alkohol-Hände-Disinfection. F. Alfeld (Marburg).
68 *Zur Kasuistik der Blausäurevergiftung (hydrocyanic acid intoxication). Tintemann.
69 Removal of Detached Head.—Zur Entfernung des im Uterus zurückgehaltenen Kopfes nach Abreissen des Rumpfes. Borgnis.
70 *Bilioser Typhus. F. Ehrlich.

63. Treatment of Furuncles, Carbuncles and Phlegmons.—Enderlen says that treatment should avoid the slightest pressure on a furuncle, as this tends to drive the germs deeper into the tissues or to spread them. He has found Bier's suction therapy a great aid in treatment. It is likely, he says, to abort an incipient process by the hyperemia induced, and it aids in the evacuation of pus and necrotic masses. The bulb should be compressed only enough to have the cupping glass hold firm, and suction should be applied very slowly and gradually. He covers the focus and vicinity with a thick layer of salve to prevent infection of the latter. The suction treatment is appplied daily for about 45 minutes, applying the cupping vessels for five minutes and then resting for three minutes. The salve is then cleaned away with ether or benzine and an aseptic dressing applied. He continues the suction treatment until the lesion is completely healed. His experience with yeast internally has been conflicting. Bier has reported good results in treatment of carbuncles with suction, but others have been less fortunate. Enderlen removes the infiltrated tissues after a crucial incision; the necrotic masses are expelled under tamponing with iodoform gauze, after which the lesion heals under a salve. He advises against poultices for phlegmons as a waste of time. It is impossible to check the proliferation of the bacteria in these cases, and disinfectants and the actual cautery are alike useless. Incision, evacuation and tamponing are the main reliance, aside from the Bier technic.

64. Cancer.—Ribbert believes that metastasis, after a cancer has been developing for some time, is due not so much to the lowering of the resisting powers of the organism by the accumulating toxins from the neoplasm as to the fact that the tissues have become accustomed to the toxins and cease to oppose resistance to them, and thus allow the cancerous growth to proceed unhindered. The organism becomes gradually accustomed to the presence of the tumor, and hence there is no immunization with a spontaneous tumor. The only prospect for inducing immunization artificially, he declares, lies in suddenly overwhelming the organism with large amounts of the toxins, which would induce an energetic production of antitoxins, before the organism had had time to become accustomed to such quantities of toxins. Sticker has recently called attention to the fact that an organism in which an implanted tumor is growing is protected against further implantation, but loses this protection after the implanted tumor has been extirpated, new implantations resulting positively. This shows, Ribbert argues, that the immunity conferred by the implanted tumor is transient and is induced by substances which are rapidly expelled from the body after the removal of the focus. Assuming that the products of cancer metabolism to which the organism becomes accustomed, in case of cancer, are transient in their effects, and are likewise rapidly expelled from the body after extirpation of the primary focus, then it follows that after extirpation is the moment when cancer products might be effectually used to induce immunity as a protection against recurrences and metastases. It seems probable that those products which are derived from carcinomata of the same variety would be effectual for the purpose. If this assumption is correct, he adds, then it might prove advantageous to reinject the products of the very cancer that was extirpated to serve for the subsequent immunization.

65. Blood and Lymphocytosis in Cerebrospinal Fluid.—Ohm reviews the field of cytology of the cerebrospinal fluid, and describes a case in which the presence of blood differentiated a basilar intracranial aneurism. In other cases the lymphocytosis of the cerebrospinal fluid revealed incipient tabes.

66. Blood Diseases.—Mosse recognizes two great varieties, the circumscribed and the diffuse affections of the blood-forming apparatus. The circumscribed form is the myeloma, and we can speak of an erythrocytoma, a lymphocytoma or a myelocytoma. The diffuse form includes five varieties; the diffuse

increase in the bone marrow elements which produces the syndrome of polycythemia with cyanosis and enlargement of the spleen, and the embryonal type of blood formation producing the syndrome of pernicious anemia. The third variety is characterized by an increase in the entire myeloid part of the bone marrow with corresponding changes in the cells with granulations, manifested clinically as myelogenic or myeloid leukemia. The fourth form is that of hyperplasia of the lymphatic part of the bone marrow, involving also all those organs in which lymphocytes are normally encountered. This produces the clinical picture of lymphatic leukemia and pseudoleukemia. There is, further, the condition known as aplasia of the bone marrow. In regard to treatment, he urges the great importance of repose in anemia and chlorosis, absolute repose in bed for a week. In pernicious anemia, hygienic-dietetic measures and administration of hydrochloric acid, according to Grawitz, should be employed. The necessity for following Grawitz' directions is the more urgent, as he has saved where others lose their patients. Roentgen treatment is indispensable when indicated. Rosenstern has lately demonstrated that the rays have a directly destructive action on the points where the white blood corpuscles are produced, which reduces the production of these cells and improves the clinical picture in leukemia. If the red cells show injury or reduction in numbers, this is a sign of too intensive radiation.

68. **Hydrocyanic Acid Intoxication.**—A chemistry student dropped a reagent glass containing some hydrocyanic acid, and in stooping to pick up the glass he inhaled the fumes of the acid for a moment. Besides the usual symptoms of intoxication, vertigo, motor unrest, headache, small filiform pulse—128—and enlargement of the right heart with cyanosis, the urine showed numerous tube casts and considerable albuminuria, and the temperature was 38.3 C. These symptoms persisted for a week, the albuminuria finally vanishing by the ninth day.

70. **Biliary Typhoid Fever.**—Ehrlich describes a case of unmistakable typhoid infection in which the characteristic lesions were localized in the biliary passages and secondarily in the liver, with the intestines intact. The case is chronicled as septic typhoid cholangitis.

Münchener medizinische Wochenschrift.

71 (LIII, No. 39.) Ueber isolierte apraktische Agraphie. K. Heilbronner.
72 *Ueber perniciöse Anämie und Leukämie. G. Kelling (Dresden).
73 Spontane und postoperative Implantations-Tumoren. A. Sticker.
74 *Transplantation menschlicher Ovarien. H. Cramer.
75 Ueber das Chlorom des Schädels (of skull). C. Pfeiffer.
76 Action of Mercury-Quarts-Glass-Lamp.—Wirkung der Quecksilberquarzglaslampe. E. Schreiber and H. German (Magdeburg).
77 *Early and Prophylactic Action of Stasis Hyperemia on Infected Wounds.—Ueber die frühzeitige und proph. Wirkung der Stauungshyperämie auf infizierte Wunden. E. Joseph. (Concluded.)
78 Choice of Mineral Water for Digestive and Metabolic Disturbances.—Indikationen für die Auswahl von Mineralwässern zu Trinkkuren bei Verdauungskrankheiten und Stoffwechselstörungen. W. Fleiner. (Con 'uded.)
79 Zur Eröffnung des Institutes für experimentelle Krebsforschung in Heidelberg (cancer research). Voelcker.
80 (No. 40.) *Therapeutische Versuche zur Heilung von Krebsgeschwülsten durch die Methode der Anästheseierung (cure of cancer by anesthetization). G. Spiess.
81 Typhoid-Bile-Tubes for Bacteriologic Examination of Blood—Verwendung der Typhusgallerröhre zur Blutkultur. H. Kayser.
82 Ueber die Sesam-Beine der Metatarsophalangeal-Gelenke. A. Stieda.
83 Zur Lehre vom Pulsus alternans. Hornung.
84 Pulsus alternans mit partieller alternierender Herstätigkeit (with partially alternating heart action). G. Galli.
85 *Ineffectual Courses of Mineral Waters in Gastric Affections.—Ueber erfolglose Mineralwassertrinkkuren bei Magenkrankheiten. E. Agéron.
86 *Influence of Suction Hyperemia on the Healthy Eye and on the Course of Eye Affections.—Einfluss der Saughyperämie, etc. Hoppe.
87 Ein Narkosen-Apparat mit Dosierungs-Vorrichtung. G. Schubert.
88 Fusshalter zur Fixierung des Fusses bei Verbandanlegung (foot-holder in applying dressings). W. Burk (Frankfurt a. M.).
89 Eine neue waschbare Bauchbinde (washable abdominal support). H. Maas (Heidelberg).
90 Forceps to Hold Uterus in Abdominal Operations.—Uterushaltezange. Prüsmann (Dresden).
91 Ein Apparat zur Entnahme kleiner Blutmengen (to obtain small quantities of blood). O. A. Wiek (Hafenese).
92 Gesichtsschutz-Maske (to protect the face). Breitung (Eisenach).
93 Individual Care of Patients at Health Resorts.—Vorschläge zur praktischen Durchführung einer individuellen Verpflegung in Badeorten. H. Silbergleit (Kissingen).

72. **Relations Between Pernicious Anemia, Leukemia and Cancer.**—Kelling points out the close resemblances between malignant tumors and pernicious anemia and leukemia, not only from the pathologic-anatomic point of view, but also from the biologic. All three are favorably influenced by arsenic and the Roentgen rays, and as instances are known in which an intercurrent erysipelas has had a favorable influence on malignant tumors, so also the same has been observed in pernicious anemia and in leukemia. A further argument in favor of the etiologic connection between them is the similarity of the reaction to the precipitin and the hemolytic tests of the blood serum of patients with cancer and with pernicious anemia and leukemia. They all give the same specific reaction. Kelling's views in regard to the origin of malignant disease from inoculation with embryonal cells from another species have been duly chronicled in these columns. This is his seventh communication on the cancer question. One of the facts cited is the death from pernicious anemia of a large dog after inoculation with heterogenous embryonal cells. He calls attention to the frequency with which the malignant blood diseases develop after some affection entailing ulcerative processes in the digestive tract, such as typhoid, tuberculosis, diarrhea, syphilis or gastric ulcer. Embryonal cells, he states, may be ingested in the food in the form of raw eggs, raw meat, raw sausage or the like, and these embryonal cells from another species pass through the ulcerative process into the lymphatics and thence into the bone marrow, where they are liable to proliferate and to induce the clinical picture of pernicious anemia or leukemia.

74. **Transplantation of Human Ovaries.**—Cramer reports two cases of atrophied or missing ovaries in which he transplanted ovaries removed at the moment from patients with osteomalacia. In one case the results seemed to indicate that the implanted ovary had restored the lacking ovarian function, but in the other case the implanted ovary was absorbed in the course of ten weeks. He describes his technic in detail. In the successful case he placed the allt ovary on the allt atrophied ovary of the patient in such a way that stroma was in contact with stroma, doing this on both sides. This technic guarantees best, he thinks, the nourishment and growth of the implanted ovaries. In this case the uterus increased three inches in length, the symptoms of the premature menopause subsided, and what was supposed to be menstruation occurred once or twice, and then an abortion occurred with swelling of the breasts and discharge of colostrum. The patient was a woman of 23 who had not menstruated since a forceps delivery of a dead child two years before. The uterus was very small, and the ovaries were small, hard and atrophied.

77. **Artificially Induced Hyperemia as Prophylactic for Infected Wounds.**—In this communication from Bier's clinic at Bonn, the value of the early and prophylactic use of Bier's stasis hyperemia is extolled. It is destined, Joseph thinks, to a prominent place in the surgery of injuries threatened with infection or which have recently become infected. A number of examples are related, and the statement made that the experiences with stasis hyperemia and the results of research on immunity and other natural curative methods all combine to establish the law that when injury occurs the body does not spontaneously collect all the defensive weapons and forces which it has at its disposal, and that it is possible to aid it in this task and artificially to summon its varied forces to the spot to aid in repelling the invasion of infection. The nourishing effect of the stasis hyperemia is of great importance for healing and for the course of severe injuries with crushed tissues offering opportunities for bacterial proliferation. The constricting rubber band is from 1 to 1.5 mm. wide for a child, up to 2.5 mm. for a man's arm. The constriction should always relieve, never increase, the pain in the part. The limb looks hot, red and swollen, and there is frequently fever, but the patients have no pains; they sleep quietly and have a good appetite, and make no complaints except an occasional remark in regard to the heat. The fever differs in every respect from the fever of suppuration, and Bier regards it as an additional defensive reaction on the part of the body.

80. **Treatment of Cancers by Anesthetization.**—Spiess found that malignant tumors in mice were favorably influenced by exclusion of the reflex hyperemia induced by the irritation of the growth, that is, by anesthetization. He used various anesthetics for the purpose, the aim being to arrest the sensory irritation, and hence the reflex hyperemia. He found that when the tumors were of slow growth and the anesthetic was injected early, the tumor actually healed under the influence of the anesthetization. After these successful results the method was given a trial in 11 clinical cases. Benefit seemed to be apparent, but the cancers were all in such an advanced stage that little could be expected from any treatment. Czerny is now giving this method a thorough trial at his new Cancer Research Institute.

85. **Stomach Disturbances Not Benefited by Course of Mineral Waters.**—Agéron points out that when a stomach is enlarged or in a condition of relaxation or atony, ingestion of large amount of fluids only aggravates the condition. When a course of mineral waters is being taken, the patient should be instructed to lie down at once after drinking the water, and to turn on his right side, to relieve the stomach and favor evacuation of the fluid. The amount of water allowed should also be regulated to suit the individual case.

86. **Suction Hyperemia in Treatment of Eye Affections.**—Hoppe has applied a Bier-Klapp suction vessel to the eye in various inflammatory conditions and states that, applied with care, it can not do harm, while the therapeutic influence is very beneficial in appropriate cases, associated with or in the place of other measures.

Virchow's Archiv, Berlin.
Last indexed, page 1774.

94 (185, No. 1.) Formation of Elastic Fibers.—Die Bildung der elastischen Faser. S. Fuss.
95 Importance of Elastic Tissue in Heart for Diastole.—Das elastische Gewebe im Herzen und seine Bedeutung für die Diastole. Fahr.
96 Zur Kenntnis der Osteoarthropathie hypertrophiante pneumique. Krüger.
97 Ueber Cysten-Bildung der Niere und abführenden Harnwege (cyst formation in kidneys and afferent urinary passages). G. Herxheimer.
98 Lymphomatose der Speichel- und Thränen-Drüsen (of salivary and lachrymal glands). S. Minelli (Strasburg).
99 Zur Kenntnis des anatomischen Befundes der Lysol-Vergiftung (anatomic findings in lysol poisoning). Kaibe (Halle).
100 Comparative Research on Thrombosis.—Vergleichende Untersuchungen über die Thrombose. L. Loeb (Philadelphia).
101 (No. 2.) Geschwülste der Herzklappen (tumors of heart valves). W. S. Djewitzky (Moscow).
102 *Triple Stain for Tissues.—Eine neue und leicht auszuführende dreifache Färbung für Zellen und Gewebsschnitte nach Flemmings Dreifach-Behandlung. V. Bonney (London).
103 2 Fälle von Dünndarm-Atresie (of small intestine). P. Karpa.
104 Divertikel-Bildung bei Appendicitis. R. Schweitzer.
105 Changes in Rabbit Kidney After Ligation of Renal Vein for 2 Hours.—Veränderungen der Niere des Kaninchens, etc. F. Pawlicki.
106 Zur Kenntnis der gliomatösen Neubildungen des Gehirns mit bes. Berücksichtigung der ependymären Gliome (of brain). K. Hildebrandt.

102. **Triple Stain for Cell and Tissue.**—Bonney's stain differentiates the cells, nuclei, etc., with remarkable distinctness. The technic is simple and consists in the following: 1. Fixation of the sections of tissue in a mixture of one part glacial acetic acid to two parts absolute alcohol. The tissue is left in this mixture for from 5 to 15 minutes, according to the size of the piece. Formaldehyd can not be used. 2. The sections are then embedded and fastened as by the usual methods. 3. They are placed for one hour in a saturated aqueous solution of saffranin. 4. They are rinsed in water. 5. They are transferred for 15 minutes to a saturated aqueous solution of methyl violet. 6. The object glass outside of the part occupied by the section is rinsed and wiped dry. 7. The object glass is then flooded with the following mixture, applied from a dropper: To 20 c.c. of acetone is added a saturated aqueous solution of orange G, a drop at a time, until the flocculent precipitate which appears at first becomes dissolved again as more drops of the aqueous solution are added. The solution is then filtered. When poured on the section the latter is lost to sight under the stain. 8. The stain is soaked up with blotting paper, and the solution is again applied to the piece of tissue, until the cloudiness over the section disappears and the section becomes visible again. 9. As soon as the section assumes a brownish pink tint it is rinsed for a few seconds in acetone and then placed in xylol twice renewed, and examined under the microscope to see if more orange-acetone is needed, and is then embedded in balsam. This modification of Flemming's stain shows all the chromatin, nuclei and chromosomes a deep violet; the achromatic parts of the fission figures are pale pink, the protoplasm is pink and the interstitial tissue pale yellow. The most important factor in the stain is the orange-acetone solution. If it acts too long the specimen turns yellow all over; if not long enough the specimen looks spotty.

Grèce Médicale, Syra, Greece.
Last indexed XLVI, page 1888.

107 (VIII, Nos. 7-8.) La manière d'agir du fer médicamenteux (mode of action of iron in therapeutics). C. Calewras.
108 (Nos. 11-12.) *Sur les accidents paralytiques survenant au cours du traitement antirabique. P. S. Pampoukis (Athens).
109 (Nos. 13-14.) Experimental Leucocyte Reaction to Acute Arsenic Intoxication.—Les réactions leucocytosiques dans l'empoisonnement aigu par l'arsénic. A. Mavroyannis.
110 *Relations Between Malarial Fever and Infectious Diseases.—Les rapports des fièvres palustres avec les maladies infectieuses. A. Doxiadès (Bulgaria).
111 *Contagiosité des fièvres palustres. C. Variamidis, Rosakis and Tsamalis.
112 (No. 15-16.) *Causes d' insuccès de la méthode Pasteur antirabique. P. S. Pampoukis.

108. **Paralytic Accidents Observed Under Pasteur Treatment of Hydrophobia.**—Pampoukis has observed two cases of paralysis occurring under Pasteur treatment after the bite of a supposed rabid animal. One patient was a girl of 11 and the other a physician of 55, and both recovered in the course of a few weeks. Nitsch asserts that the rabic virus loses its virulence by passage through rabbits, and he proved it by inoculating himself with 2 c.c. of fixed virus from a rabbit that had just succumbed to the disease. He felt no ill effects from this experience. For these and other reasons Pampoukis thinks that it is impossible to incriminate the rabic virus in the production of the paralysis, but that it is due to the rabic toxin in the emulsions, which acts like diphtheria toxin in inducing paralysis. Remlinger has induced experimental paralysis by injecting the filtrate of rabic brains, and the animals succumbed to the paralysis, but it was impossible to inoculate other animals with rabies from them. In studying the cases on record it will be seen that the paralysis always developed after some shock to the system. A cold bath, a cold douche, cold applications or the like, or an acute infection, such as grippe, preceded the paralysis in too many instances for it to have been merely a coincidence.

110. **Relations Between Malaria and Other Infections.**—Doxiades affirms from extensive experience and observation that malarial infection does not exclude other infection nor other infections malaria, but on the contrary, they induce a predisposition. Each infection preserves its characteristics, not much modified by the existence of the other. Persons debilitated or convalescing and residing in a malarial country, he says, should take quinin systematically as a tonic and prophylactic against superposed malarial infection.

111. **Malaria in Greece.**—Variamidis states that it is impossible to reconcile the exclusive mosquito theory in regard to the transmission of malaria with the facts observed in Greece during the last year. Epidemics of malaria were observed in dry, mountainous districts, where there are no mosquitoes. As a rule, however, his experience and that of the other physicians of Thessaly, demonstrate that malarial fevers are more prevalent after rainy seasons and in marshy localities, with a very hot summer and much evaporation. He is convinced that the malarial parasite is able to breed and develop outside of man and the mosquito, possibly in muddy, marshy soil, where it may lie latent for a long time. A predisposition is necessary for malarial infection, and overwork, excesses, climatic vicissitudes, basement dwellings, etc., are conditions favoring it. Rosakis ascribes to flies and other insects as well as the mosquito the transmission of malarial parasites. He knows of several mountainous villages where mosquitoes are unknown and yet malaria is prevalent in all the forms and types of intermittent fever. In several villages of Megalopolis malarial infection follows drinking water from

a certain well, according to tradition and present day experience. When the people drink this water the spleen begins to enlarge and they have fever, while the symptoms vanish when they refrain from the use of this water. Unhealthy emanations, he is convinced, are also a factor in the etiology of malaria. Tsamalis practices in a very malarial region in a southern province, and he also doubts whether mosquitoes alone are responsible for the transmission of the disease. He has frequently noticed the simultaneous appearance of numbers of cases of fevers during the summer, two or three days after heavy rains, even in villages almost entirely free from mosquitoes. He declares that it seems probable that the simultaneous cases are the result of the influence of certain emanations containing the products of putrefaction of vegetable matters and the germs of malaria. Another argument is the sensation of discomfort and suffocation experienced by even a healthy person coming for the first time into the heavy air of a marshy district. A third argument is the serious epidemic of malaria that broke out almost simultaneously in the villages along the Pamissa River when its bed was being lowered. No unusual numbers of mosquitoes were noticed at the time. [Ronald Ross has lately been studying the prevalence and types of malaria in Greece, and recently delivered an address on the subject before the Oxford Medical Society (England). As we have previously stated in these columns, about 6,000 persons die annually in Greece of malaria out of a population of nearly 2,500,000, while nearly 1,000,000 cases of malaria are observed each year. Agricultural poverty accompanies the malarial cachexia, and Ross appealed to lovers of Greece to aid the Antimalarial League of Greece with funds and sympathy. Professor Kardamatis of Athens is secretary of the league. The Liverpool School of Tropical Medicine has already started a subscription for the purpose, and is distributing a circular describing the aims proposed by the Greek league in its campaign against malaria.—ED.]

112. **Causes of Failures in Pasteur Treatment of Hydrophobia.**—Pampoukis observed that getting chilled is frequently followed by development of hydrophobia in persons who are taking or have just completed a course of Pasteur treatment. While the cells of the organism are engaged in the struggle against the hydrophobia germs, everything tending to depress the organism and lower the vitality should be carefully guarded against. He relates a number of examples to show the serious influence of getting chilled, exposure to a storm, a cold douche, a chill from sleeping out of doors or the like, being followed by typical hydrophobia when previously the patients had been free from any symptoms. The precautions against getting chilled should be kept up for three months at least after the course of treatment, with abundance of nourishing food and avoidance of everything tending to lower the vitality.

Gazzetta degli Ospedali, Milan.

113 (XXVII, No. 108.) *Sulla terapia specifica della tubercolosi. E. Maragliano.
114 Effect of Grip on Circulatory Apparatus.—Modificazioni determinate nell' apparecchio cardio-vascolare dalla tossi-infezione grippale. G. Ghedini and S. Livierato.
115 *Nuovo mezzo di disinfezione degli ambienti (disinfection with sulphur and lead nitrate). A. Gasparini.
116 (No. 111.) Calcolosi epatica e lesione del paragangli. E. De Renzi.
117 Priorità a proposito delle aggressine e dei vaccini aggressinici. I. Bandi.
118 La prognosi del morbo di Little. C. Ortali.
119 Diagnosi differenziale fra meningite tubercolare e meningite cerebro-spinale epidemica. W. Chiodi.
120 Sulla stasi alla Bier. M. Ferrari.
121 Le vie d' accesso nella chirurgia del testicolo e delle vie spermatiche (means of access). E. Pasqui-Mangeli.
122 (No. 114.) Action of Radium on Virus of Rabies.—Sopra alcune condizione necessarie per averal la scomposizione in vitro del virus rabido con mezzo del radio. G. Tizzoni and A. Bongiovanni.
123 Relations Between Typhoid and Paratyphoid Bacteria.—Rapporti fra i batterli tifo e tifosimili. S. Livierato.
124 Trombo pedunculato del cuore in via di organizzazione (organized thrombus in heart). C. Bassoni.
125 La circoncisione nella cura del fimosi e delle ulceri veneree. L. Nelli.

113. **Specific Treatment of Tuberculosis.**—Maragliano reviews his 11 years of work in this line since he announced in August, 1895, that he had succeeded in immunizing animals against tuberculosis, and that animals thus immunized produced specific defensive materials which could be transferred to the organism of other animals and to man, conferring defensive powers on them. He thus claims priority for the specific treatment of tuberculosis, and states that he has been diligently at work ever since 1892 collecting clinical material and evidence to confirm his assertions. The organism, he says, opposes to the invasion of the tubercle bacillus three barriers: That formed by the tissues in which the bacilli locate; that of the surrounding tissues, and that of the organism as a whole. The anti-tuberculous materials are likewise threefold, the antitoxin, the agglutinating material and the bacteriolysin. If the organism is incapable of producing these substances there is no curative action, but when the participation of the organism can be counted on, the injection of even a small amount of these substances starts their production on a large scale. This specific treatment of tuberculosis, therefore, is a natural therapy, as it confers on the organism the natural means of defense. It is not a remedy in the true sense of the word. Maragliano uses the serum of the blood and an extract of the leucocytes of immunized animals, also the milk and the meat of immunized animals and the eggs of immunized hens. The defensive substances can be introduced into the organism in various ways, but the subcutaneous route is the most effectual with the smallest doses. The gastrointestinal route is equally effectual, but it requires larger doses. He immunizes the animals with an aqueous solution of the bacillary protoplasm plus the toxins secreted by the bacilli in the culture medium, and prefers goats for the purpose. He has long insisted on the folly of applying conclusions from animals to man. The conditions differ to such an extent that there can be no comparison between them. He reports remarkable success in the treatment of tuberculous processes in joints and glands with local injections of the antituberculous antitoxin or bacteriolysin, as he calls it, supplemented by general treatment with the same. Good results were also obtained in cases of tuberculous processes in the pleura and peritoneum, although the general organism had to be depended on more in this case. The conditions are more complex in case of tuberculous processes in the lungs, as these are "open" processes, generally with secondary infection, not pure tuberculous, as in the other cases. The specific treatment is only partly specific for these processes, attacking only one out of the several factors of the lesion. If the process could be discovered in an early stage, before secondary inflammation, then the specific treatment would enter on its rights. He has succeeded in completely curing hundreds of cases of tuberculosis of the lungs in which the first and second barriers mentioned above were still intact, holding the process in check and localizing it in the lungs, without phenomena of toxemia. These cures are complete and permanent, some of his patients having been cured for 12 and 13 years. Such results, he declares, can be counted on in every case in which the affection is diagnosed in its early stage. Spontaneous cures in such cases are possible, but they are not the rule as with the specific treatment, without modification of the patient's mode of life. If the patient's blood does not contain the defensive materials in sufficient amount, their production is stimulated by the specific treatment and the process heals. In a more advanced stage the result depends on the possible participation of the organism. The fever is easily conquered if it is due to tuberculous toxemia; the temperature returns to normal by very gradual stages, a tenth of a degree at a time. The sweats, etc., subside, but the focal symptoms long persist, owing to the presence of streptococci, staphylococci or diplococci, which reduces the resisting power of the tissues. The specific treatment relieves the tuberculous factors in the lesion, but is powerless against the others, and against the injury from the tissues becoming necrotic under the polymicrobian invasion. He has recently introduced the bacteriolysin directly into the focus, injecting it through the chest wall. In many cases the results, he states, were remarkable. In whatever way the bacteriolysin is introduced, it is always perfectly harmless. About 20,000 patients have been treated by this method, and he tabulates his statistics in the periods 1895-1900 and 1900-1905, restricting them to the patients he has had under prolonged

personal care. When physicians learn to make the distinction between pure tuberculosis and pulmonary affections with complex and advanced infection, he remarks, most important progress will have been realized. His work in the line of vaccination of infants of consumptive parents has also given satisfactory results. These children all present the defensive substances in their blood, and their general condition is good. They are vaccinated in the arm at three points; each inoculation results in the production of a small indurated pustule with a slight rise in temperature and swelling of adjacent glands, all the symptoms subsiding in two or three days. The vaccination material is ordinary human tubercle bacilli of exalted virulence, killed before inoculation. This communication was presented at a recent French medical congress, and Maragliano added details showing that von Behring had merely followed in his footsteps in his work on specific treatment and prophylaxis of tuberculosis in man and animals.

115. **Sulphur and Lead Nitrate for Disinfection of Rooms.**—Gasparini reports very effectual tests with disinfection of rooms by the fumes of a mixture of sulphur and lead nitrate. The mixture is shaped into small cones, which are placed touching each other, and when one is lighted, the whole is soon in combustion. The fumes of 4 cones killed all ordinary germs and 12 cones killed anthrax spores in his tests in a small room.

Norsk Magazin f. Laegevidenskaben, Christiania.
Last indexed, page 1520.

126 (LXVII, No. 6.) *Lysbehandling (phototherapy). I. C. Holm.
127 *Om feber ved sarkom (fever). P. Bull.
128 Success of Morphin in Acute Edema of the Lungs.—Akut lunge-ødem behandlet med morfin. C. J. Ellefsen.
129 Syfilis-infektion fra lig (from the cadaver). E. H. Hansteen.
130 (No. 7.) Spirochæta pallida. Id.
131 Examination of the Heart.—Vedkommende undersøgelse af hjerte.
132 2 tilfælde af Morbus Addisonii. K. Andersen.
133 Etiology of Tumors.—Om svulsternes aarsager. P. Bull.
134 (No. 8.) Lokalanæsthesi. O. Borchgrevink.
135 4 nye tilfælde af Prostatectomia perinæalis. A. Bødtker.
136 Om multiple karcinomer. A. Tanberg.
137 (No. 9.) *Elendommelig hjernelæsion (brain lesion). F. Harbitz.
138 Lysolforgiftning (lysol intoxication). Id.
139 Cancer pylori med udbredte metastaser til bensystemet forløbende klinisk som en Anæmia gravis. H. Thue.
140 Om pylorusstenose hos spædbarn (stenosis of pylorus in infants). T. Frölich.
141 Et tilfælde af multiple tyndtarm-divertikler (in small intestine). O. Berner.
142 3 tilfælde af kraurosis vulvæ. Vedeler.

126. **Treatment with Light.**—Holm states that he has applied phototherapy in 350 cases during the last four years and has had very gratifying results. In 265 cases the treatment was required for chronic rheumatism, uric arthritis, chlorosis or anemia. He has found the action of red light particularly effectual in cutaneous affections, such as the eruption of smallpox, sunburn and psoriasis. The red light seems to have a specific action in inducing sweating. The chemical rays have a stimulating action on the nervous system and the metabolism. The ultraviolet rays have further a bactericidal effect, while the other chemical rays merely check the development of bacteria. The chemical rays dilate the peripheral blood vessels and induce inflammation in the skin and pigmentation. Applying treatment on these principles he has cured inveterate sciatics, gout, chronic rheumatism, etc., as he shows by several instances related in detail. One patient was a man of 42 who had suffered from recurring sciatica for seventeen years, rebellious to all kinds of treatment and frequently compelling him to stay in bed. He was treated with Holm's "combined light bath," temperature up to 65 C., with following douche, alternating every other day with a local light bath along the course of the sciatic nerve. Five weeks of treatment seem to have entirely cured the tendency to sciatica. The "combined bath" applies light and warmth, and is followed by massage and exercises. Two 1,000 candle-power arc lights, with reflector, but no glass shade, are arranged in a small chamber, 4 by 6 feet, heated to any desired temperature. The patient sits or reclines, with the electric light focusing on the diseased part for from ten to twenty minutes. This is followed by massage or other mechanical measures, after which the patient takes a cooling douche, graduated to the temperature and length of the bath, and lies down for an hour afterward. This combination has proved especially effectual in chronic rheumatism, arthritis, sciatica and lumbago. Holm uses also a full bath with incandescent and arc lights representing 5,000 candle power and a local light bath for the part affected, which can be applied in the bed, but the combined bath described above has the most powerful effect on the metabolism, although it requires an unweakened heart and resistant nerves. He is convinced that only the rays that are absorbed have any action on the different tissues.

127. **Fever with Sarcoma.**—Bull has observed a fever accompanying sarcoma in 14 out of 20 cases. The fever was of no decided type and was encountered more frequently in the young. The duration of the affection and the histologic stage have no influence on the fever. It seems to be more an expression of metastasis in general, without reference to any special organ involved.

137. **Brain Lesion from Impact of Umbrella Tip.**—Late at night a young man collided with an umbrella carried by a companion, and the tip of the umbrella entered his nose with great force. He spent two hours searching for a physician. Medical treatment was limited to arresting the slight hemorrhage and applying a compressing bandage over the eye, as the patient complained of transient blindness in the eye on the injured side, and the eyeball protruded somewhat. No appreciable lesions could be discovered, and the patient felt no special disturbances except headache. Fever developed in a few days with somnolency, stiff neck, vomiting and radiating pains, and the patient died within two weeks of the accident, exhibiting cyanosis and rapid respiration toward the last. Rhinologic examination had been negative, but autopsy revealed that the tip of the umbrella had penetrated entirely through the frontal lobe on entering the nose, and had passed into the interior of the brain. The distance from the nostril to the end of the lesion was nearly 12 cm. The absence of serious symptoms during the first few days is the remarkable feature of the case, Harbitz remarks.

NEW PATENTS.

Recent patents of interest to physicians, etc.:

834042. Surgical sewing instrument. Peter Behr, Hanover, Germany.
834184. Inhaler. Yancey Q. Caldwell, Paris, Tenn.
834185. Air-pressure supply apparatus for atomizers. Charles E. Campbell, Akron, Ohio.
834047. Surgical implement for amputation of the rectum. Charles G. Crumrine, Detroit.
834205. Crutch. E. X. Jones, Atlanta, Ga.
834209. Therapeutic apparatus. Ernst Kromayer, Berlin, Germany.
833849. Catamenial garment. Sarah G. Schiff, New York.
833759. Surgical instrument. John D. Bourwise, Brazil, Ind.
834257. Apparatus for making nitric acid. Oscar H. U. Brunler, Leipsic-Gohlis, Germany.
834259. Artificial ear-drum. John B. Campbell, New York.
834261. Vaccine injector. Clarence S. Chambers, Sidney, Neb.
834712. Truss. Fordham Crater, Parsons, Kan.
834480. Machine for producing threads from collodion and recovering the solvents of nitrocellulose or celluloss. Maurice Denis, Mons, Belgium.
834477. Invalid-bed. Nick W. Kline, Longbeach, Cal.
834830. Emulsion and producing it. Karl Mann, Zurich, Switzerland.
834683. Combined tweezers and blackhead-remover. Henry H. Severin, Springfield, Mass.
835428. Artificial leg. James Hogan, Emison, Ind.
835108. Crutch. Park S. Hovis, Butler, Pa.
835431. Projector for pathological work. Henry A. Hughes, St. Louis.
834987. Joint for artificial limbs. George W. Leirmann, Cleveland, Ohio.
835075. Apparatus for fresh-air treatment. Samuel H. Mahaffy, St. Louis.
834926. Vibro-meter. Edward McGarvey, Youngstown, Ohio.
835035. Physical exercise apparatus. John H. Rigbey, Liverpool, England.
835083. Woven surgical bandage. Ernst Strahl, Hamburg, Germany.
835771. Manufacturing alkaline bicarbonates. Johann G. Behrens, Bremen, Germany.
835496. Vaginal syringe. Wm. H. Brandon, Kokomo, Ind.
835496. Syringe. Samuel H. Chubb, New York.
835501. Making acetates. Harry O. Chute, Cleveland, Ohio.
835882. Atomizer. Anton C. Eggers, New York.
835622. Movement-cure apparatus. John H. Kellogg, Battle Creek, Mich.
835080. Finger-bandage. Blahomraf Paroubek, Plainfield, N. J.

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